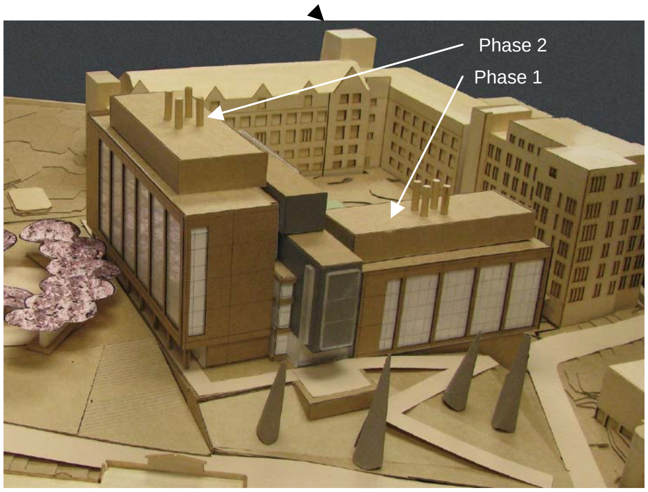
UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

MOLECULAR ENGINEERING BUILDING



AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Molecular Engineering Building		RESEARCH	08-2-003
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
Yes - funded for Predesign and Design in 07-09			na
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		7/10/08 DRAFT

1. Project Schedule:

	Start Date	Complete Date
Predesign	August 2007	December 2007
Design	May 2008	November 2009
Bid	November 2009	December 2009
Construction	December 2009	October 2011
Occupancy		January 2012

2. Problem Statement:

The University of Washington has prioritized establishing a new interdisciplinary program in molecular engineering. This emerging field of research will become one of the cornerstone disciplines that allows us to tackle societal grand challenges tied to sustainability, information technology, and affordable and effective health care in the developed and developing world.

The University of Washington currently has no suitable space to house the new program, especially space that meets the ultra low vibration and electromagnetic interference requirements of the laboratory equipment needed for this kind of research.

In this initial phase, the proposed project will build a flexible research building of about 80,000 gross square feet (gsf). The proposed design for the initial phase should assume that future expansion could result in building a total of 160,000 gsf on this site.

The project will be designed to support collaborative research teams and with infrastructure that can be adapted to accommodate rapidly changing research and its equipment needs. The initial phase prioritizes space for shared instrumentation labs with ultra low vibration and electromagnetic interference because this space is the catalyst for attracting both high caliber researchers, and grant and foundation funding. World class faculty will attract and educate the best students. Research discoveries in the new building will help create a new generation of start-ups, and high tech commercial spin-offs that are important to a diverse and robust future state economy.

3. History of the project or facility:

The University of Washington is requesting $57,500,000 in construction funding in the 2009–11 biennium to build the Molecular Engineering Building, previously referred to as the Interdisciplinary Academic Building. In the 2007-09 biennium the State Legislature appropriated, and the Board of Regents approved the expenditure of $5,000,000 in the UW Capital Budget to complete the predesign and design of the first phase of the Molecular Engineering Building. The total project cost requested from the state for the Molecular Engineering Building is estimated at $62,500,000 and includes predesign, design, and construction funding. In addition, the University of Washington will add $16,000,000 from general revenue bond sources for shell space that will be completed with future research grant funding.

4. University programs addressed or encompassed by the project:

This new building will provide the facilities needed to support an emerging field that focuses on the design, discovery, and engineering of complex molecular systems and their applications - molecular engineering. This new program has primary links to the Chemistry Department, and numerous departments in the College of Engineering and the School of Medicine. The site was carefully chosen to enhance access and collaboration between these departments.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

The University will be creating an interdisciplinary program in molecular engineering that ties together sustainability and information technology, as well as affordable and effective health care both nationally and across the globe. This is a critical endeavor for the state's long-term position and success as a leader in global health research and practice. In order to conduct such research a state-of-the-art building must be built. Only a new building can adequately support the technical needs of such research, e.g., low vibration and electromagnetic interference.

- **Economic development & innovation**
- **Increases the number of high-demand fields**

By being at the forefront in this interdisciplinary research, the University positions itself as the obvious leader in advancing the appropriate technologies and solutions to global health issues and their related sustainability and technology needs. In turn, this ensures that the subsequent spin-off businesses and start-ups – *and* their family-wage jobs – will be based in Washington State. This is truly an investment in our state and world's health care needs, *as well as* our state's economic prosperity. Investments like this are critical to ensuring Washington's continued preeminence in global health.

- **Increases the number of undergraduate degrees awarded**
- **Increases number of advanced degrees awarded**

Additional rooms will be created to meet the teaching and learning demands of faculty and students. This is true for both undergraduate and graduate students. In particular to this proposed building and most importantly to the University, undergraduates are increasingly a part of our research enterprise.

Conducting research makes for a unique learning experience for undergraduates attending the University and this building will ensure this legacy continues and expands.

Graduate students are an integral part of all research at the University. More research begets more graduate students to provide research assistance. As such, graduate students working in this dynamic multi-disciplinary field will leave the UW prepared to be innovative leaders in health care.

- **Promotes safety from violence for students, faculty and staff.**

Research buildings are used 24/7. Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after-hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,

The 2001 Seattle Campus Master Plan was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the UW Master Plan can be found at http://www.washington.edu/community/cmp_site/final_cmp.html.

The program for the Molecular Engineering Building includes approximately 160,000 gsf in two phases. The chosen site (Master Plan site 25C) provides the space needed for future growth of the Molecular Engineering Building. The new structure will also relate in scale and to Johnson Hall and the Atmospheric Sciences-Geophysics Building. Of importance will be the form and mass of the building as it may provide a terminus to Grant Lane.

(b) Campus Facilities Plan,

The campus master plan was designed with enough flexibility to address emerging needs like the Molecular Engineering Building. Most of the potential campus building sites are not specifically earmarked for a particular program until a broad site analysis identifies the optimal location. Site 25C in the University of Washington's Master Plan was chosen for this new building because of its proximity to the departments that are the prime research collaborators. This site also offered enough ground level floor space capable of meeting the stringent ultra low vibration and electromagnetic interference requirements for the sensitive instrumentation. Many sites were excluded because the eventual northward extension of the Sound Transit (ST) light rail tunnel would increase vibration and electromagnetic interference above acceptable thresholds. A location map of the building site with the proposed ST route can be found in the appendix. Site 25C requires the demolition of Johnson Hall Annex, an aging wood-framed structure without historical value, and the relocation of Cunningham Hall, an important historical building dating to the Alaska Yukon Exposition in 1909.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of

Washington's request for construction funding for a new Molecular Engineering Building is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
    - Undergraduate and graduate student will be directly engaged in all the research laboratories in the Molecular Engineering Building. Students frequently mention that their hands-on experience in the labs as the most valuable part of their education.
    - The building will meet Americans with Disabilities Act (ADA) code requirements will improve universal access to programs located in the building.

- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
    - Attracting and retaining the outstanding faculty in molecular engineering depends on having high quality facilities that promote interaction and can meet the technical requirements of the sensitive instrumentation.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
    - This building will house an emerging field of research that will become one of the cornerstone disciplines that allows us to tackle societal grand challenges tied to sustainability, information technology, and affordable and effective health care in the developed and developing world.

- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
    - Molecular Engineering is a critical field that will shape the future of science. This building will help the UW take an international leadership role and provide our students with the kind of education to make them globally competitive. The companies that grow out of this research will contribute to keeping the region competitive on the global marketplace.

- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
    - The Molecular Engineering Building will be designed for flexibility to cost effectively adapt to changing needs in the rapidly evolving field of research. The building will meet at least Leadership in Energy and Environmental Design (LEED) Silver requirements.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

✓ First priority

The Molecular Engineering Building is the University of Washington's highest priority for state funding among all projects the institution is proposing in the 2009-2011 Washington State Capital Budget Request. This building is also our top priority project in the Research category.

7. Impact on Economic Development:

a. Identify any specific state, regional, or local economic development plans associated with the project, and describe how it would support them.

As one of the world's leading research institutions, the UW delivers spectacular returns to its primary stakeholders — the citizens of Washington State. UW technologies and innovations have helped Washington become a center for some of the most promising sectors of the economy -- biotechnology, medical devices and imaging, software and information technology. Over 200 new companies have been based around UW research advances. The new Molecular Engineering Building, and the research programs it will support, continues this tradition of cutting edge research that contributes substantial economic benefits to Washington State.

- By combining teaching and research, the UW offers students exceptional hands-on learning experiences that prepare them to excel in the knowledge-based economy.
- UW research-related spending supports over 42,000 jobs statewide.*
- Federal or private funding is likely to be available to support the research that would be conducted in the facility.
- The UW received over $1 billion in research funding during FY06.
- Ninety percent of this money comes from outside WA, and most of it will be spent within the state.
- UW R&D expenditures generated over $2 billion in business activity statewide during FY06.*
  *based on UW R&D expenditures and economic multipliers provided by the Washington State Office of Financial Management.

b. Summarize and quantify the expected economic benefits of the project, and provide selected supporting documentation in a clearly referenced appendix.

- The direct value of construction spending is expected to generate 620 jobs directly and another 558 jobs indirectly*. This estimate was provided by the UW Capital Project Office and was based on state economic information assembled in response to the 2003 Gardner Evans Bill.

- The economic benefits over time are substantial. Based on average faculty grant portfolios in this field we anticipate over $500,000/year of new grant revenues generated in the Molecular Engineering Building.

- Additional benefits over time are generated by research patent royalties, and new spin off companies created as a direct result of research discoveries in the building. These last benefits are difficult to quantify with a specific project. This potential is better understood from data gathered by the Office of Research for the University as a whole and summarized above.

8. Impact on Innovation:

a. Explain how the research activities proposed for the project will advance areas of existing preeminence, or position the institution for preeminence in a field or area. Evidence of existing or potential research preeminence could include, but is not limited to, funding history, faculty qualifications, publications, patents, business spin-offs, etc.

Molecular Engineering can be defined simply as a field associated with the design, fabrication, and delivery of functional (macro) molecules and molecular systems for medical, energy, electronics, photonics, and many other societal applications. It is closely connected to the Nanotechnology field, where the design and synthesis of molecules and macromolecules that assemble into structured and functional nanomaterials is foundational to this field. To our knowledge, "Molecular Engineering" does not currently exist anywhere as a formal academic discipline, making this effort the first in the nation, and perhaps the world. It is all the more remarkable in that Molecular Engineering is broadly recognized across traditional scientific and engineering departmental divisions as one of the most important, cutting-edge, and rapidly evolving interdisciplinary frontiers. This building will put the University of Washington as a leader in this field.

If one looks across departments as diverse as chemistry, physics, chemical engineering, biology, bioengineering, materials science/engineering, biochemistry, health and medical sciences and even electrical and mechanical engineering, it is easy to see the impressive growth of research programs and funding initiatives established around the molecular engineering field, the significant number of new faculty hires associated with the field, and also the demand from undergraduate and graduate students for curriculum and research opportunities in the area. This tremendous growth in the contribution of molecular engineering to a wide variety of traditional science and engineering departments has arisen from the recent explosion in our ability to design and produce new molecules, macromolecules, and molecular systems for many of society's most important technological needs. The time is thus ripe for realizing great synergy among these currently fragmented research endeavors.

9. Availability of Research Space:

a. Describe the extent to which there is sufficient space (square footage) in existing campus facilities to conduct the proposed research.

The lack of research laboratories is the primary constraint that limits the University of Washington's ability to increase grant and foundation research funding.

There is no research space available on campus not already committed to active research programs. Molecular Engineering is a new program and most of the space will be occupied by new faculty positions. Because of the intensively collaborative nature of the research it is critical that the new building is located in vicinity of its academic research partner departments. Suitable leased space is also not available.

10. Adequacy of Research Space:

a. Describe how and the extent to which existing campus facilities are inadequate to conduct the proposed research.

No existing campus facilities that are available meet the stringent low vibration and electromagnetic interference (EMI) requirements of the Molecular Engineering building. Site location options were significantly restricted by the vibration and EMI impacts of the Sound Transit tunnel that will eventually affect large portions of campus when the route is extended northward. See appendix for map.

11. Availability of Instructional Space:

The Molecular Engineering Building will have a 32-seat conference room used for seminars and instructional needs. When the non-state funded shell space in Phase 1 is completed, another 20 seat conference room will be added. Additional instructional space is planned in future phases of the building expansion.

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

12. Reasonableness of Cost:

All the projects listed below are to construct new research lab facilities with a scope similar to the Molecular Engineering Building. The Biological Research Infrastructure project at Harvard University consists of a new two story underground structure for future animal space and support space. Harvard (Boston) location modifier is 115.6 vs. 104.2 (Seattle) for a geographic index of 90.13. The Stanford University projects include a location factor of 90.5%, Palo Alto’s location factor is 115.1 and Seattle’s is 104.2 based on RS Means 2006 Facilities Construction Cost Data. The Lucas Center at Stanford consists of a two story underground structure with a lightwell/courtyard area to accommodate wet lab research and offices. The Institute for Regenerative Medicine in San Francisco has a location factor of 121.7 vs. 104.2 which is 85.6% of the total budget of $80M. This project is for research and wet labs with no vivarium included. Biomedical Research Facility at the University of CA in Santa Cruz had a location modifier of 112.5 vs. 104.2 for Seattle, reducing the total project costs 92.6%. This project consists of 40% lab support, 40% wet lab and 20% academic and administrative area. The CNSI Court of Science Building in Los Angeles, CA includes a location factor of 97.6%. Los Angeles location factor is 106.8. This project consists of both wet and dry lab areas for research and teaching. The Irvine Biomedical Research Facility consists of a majority of space as wet lab, as well as lab support, dry lab and office. Irvine’s geographic index is not listed, so Los Angeles location adjustment was made.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Molecular Engineering Ph 1	**University of Washington Seattle, WA**	**77,000**	**$78,500,000**	**$1019.48**	**Oct 2011**	**0%**	**$1019.48**

Biological Research Infrastructure	Harvard University, Cambridge, MA	75,924	$50,340,000	$663.03	Feb 2005	56.4%	$1036.98
Lucas Center	Stanford University Palo Alto, CA	27,965	$16,829,374	$737.99	Oct 2004	60.9%	$1187.43
Institute for Regenerative Medicine	University of CA, San Francisco, CA	80,000	$68,480,000	$856.00	Jan 2011	4%	$890.24
Biomedical Research Facility	University of CA Santa Cruz, CA	92,300	$63,502,400	$688.00	Nov 2009	10.2%	$758.18
CNSI Court of Sciences Building	University of CA Los Angeles, CA	188,000	$162,570,368	$864.74	May 2007	29.1%	$1116.38
Irvine Biomedical Research Facility	University of CA Irvine, CA	81,575	$64,036,375	$605.00	Jul 2009	13.8%	$688.49
Gordon and Betty Moore Center	Stanford University Palo Alto, CA	51,443	$29,224,768	$568.10	Nov 99	91.0%	$1085.07

The University of Washington proposes to use the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW, to accomplish this project in the most cost-effective manner. Detailed coordination will be necessary to minimize disruption to adjacent buildings that will remain occupied during construction and to maintain the required vehicular, service and pedestrian access around the site. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions concerning the configuration of the construction staging area and methods of construction both above and below grade. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

13. Contribution of Other Funding Sources:

a. Identify the source and amount of capital planning and construction costs that will be covered by sources other than state tax or building fund appropriations. *(Provide supporting documentation demonstrating the likelihood that such non-state revenues are likely to be available, and any restrictions on their use.)*

1) The University of Washington will add $16,000,000 from general revenue bond sources for shell space to the state funded requests totaling $62,500,000 for predesign, design and construction. This represents **20%** of the total project costs of $78,500,000 for Phase 1. These funds are committed and the current project budget is based on this total.

2) A capital grant proposal was recently submitted to the National Institute of Standards and Technology (NIST), Department of Commerce Department. If successful, the grant would provide an additional $12,000,000 in federal funding matched with another $3,000,000 in University funding for an expanded program and project budget of $93,500,000. This represents an additional **16%** of the expanded total Phase 1 project costs. Grant awardees will be notified in late September 2008. A copy of the grant is included in the appendix.

3) The shell space noted above will be built out with another $15,000,000 in federal grants, foundation and/or private funding following the completion of the Phase 1 project. It is anticipated this funding will be obtained in increments over a three-year period. It represents an additional **16%** of the Phase 1 project costs.

Non-state funding is expected to add **$46,000,000 or 42%** of a total project budget of $108,500,000.

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20082003**
Project Title: **Interdisciplinary Academic Building**

Description

Starting Fiscal Year: 2008
Project Class: Program
Agency Priority: 3

Project Summary

This is a re-appropriation request and a request for 2009-11 state funding of $$57,500,000 for the construction phase of a new Interdisciplinary Academic (Molecular Engineering) Building to complement the university's exiting engineering facilities. The roots of the UW molecular engineering program are in place as a result of recent developments in bioengineering and nanotechnology. This new facility will enable significant advances in the UW's molecular engineering program and will provide space for the development of interdisciplinary programs melding molecular engineering with aspects of medicine, biology, nanotechnology, physics and quantitative systems. The proposed new building will provide the necessary modern program space to bring molecular engineering and related departments together, such as bioengineering, chemical, electrical, mechanical materials science and nanotechnology, to meet the next generation needs for interdisciplinary teaching and research in molecular engineering and these related disciplines. The new interdisciplinary academic building will include modern wet and dry laboratories and support space in a vibration-free environment.

Project Description

This is a re-appropriation request and a request for 2009-2011 state funding of $57,500,000 for the construction of a new Interdisciplinary Academic (Molecular Engineering) Building. Construction will commence in the 2009-11 biennium. This facility will support existing and new science and engineering studies and research by providing a state of the art learning and research environment that will help attract a wide range of students and highly regarded instructors and researchers. This new facility will provide a modern learning and research environment to support interdisciplinary teaching and research in molecular engineering and related disciplines. Molecular engineering encompasses aspects of a variety of areas related to the manufacturing of molecules. This technology is an important part of the cutting edge developments in many engineering, biomedical and science related programs. This new building will enable students, faculty and researchers to utilize state of the art equipment and laboratories. The new building will include approximately 100,000 GSF of vibration free program space. About half of the building is envisioned to be fitted with wet laboratory space with the remaining space dedicated to dry laboratories, office and support space. This building will help maintain and attract instructors and students that will keep the UW and the State of Washington at the forefront in the field of engineering and related research. The UW is planning on utilitizing local bond authority to fund $16,000,000 of the project budget. The estimated total project budget is $78,500,000.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

See Attached GMA Questionaire

New Facility: Yes
How does this fit in master plan

See Attached GMA Questionaire

Funding

Expenditures **2009-11 Fiscal Period**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20082003
Project Title: Interdisciplinary Academic Building

Funding

Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	63,066,261		4,066,261	1,500,000	57,500,000
252-7	HI Ed N-Prop Lcl Cap-Private/Local	16,000,000				16,000,000
	Total	**79,066,261**	**0**	**4,066,261**	**1,500,000**	**73,500,000**

		Future Fiscal Periods			
		2011-13	**2013-15**	**2015-17**	**2017-19**
057-1	State Bldg Constr-State				
252-7	HI Ed N-Prop Lcl Cap-Private/Local				
	Total	**0**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	01/01/2007	12/01/2007
Design	4/1/2008	4/1/2010
Construction	12/1/2009	10/1/2011

	Total
Gross Square Feet:	60,878
Usable Square Feet:	33,940
Efficiency:	55.8%
Escalated MACC Cost per Sq. Ft.:	729
Construction Type:	Laboratories (Research)
Is this a remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.25%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		400,000	0.5%
Construction Documents		2,089,265	2.7%
Extra Services		2,100,798	2.7%
Other Services		2,026,497	2.6%
Design Services Contingency		1,157,032	1.5%
Consultant Services Total		**7,773,592**	**9.9%**
Maximum Allowable Construction Cost(MACC)	**44,359,595**		
Site work		0	0.0%

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20082003
Project Title: Interdisciplinary Academic Building

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Related Project Costs	0	0.0%
Facility Construction	44,359,595	56.5%
GCCM Risk Contingency	992,191	1.3%
GCCM or Design Build Costs	6,200,475	7.9%
Construction Contingencies	6,653,939	8.5%
Non Taxable Items	0	0.0%
Sales Tax	5,238,558	6.7%
Construction Contracts Total	**63,444,758**	**80.8%**
Equipment		
Equipment	1,083,700	1.4%
Non Taxable Items	0	0.0%
Sales Tax	97,533	0.1%
Equipment Total	**1,181,233**	**1.5%**
Art Work Total	**221,798**	**0.3%**
Other Costs Total	**2,539,805**	**3.2%**
Project Management Total	**3,338,814**	**4.3%**
Grand Total Escalated Costs	**78,500,000**	
Rounded Grand Total Escalated Costs	**78,500,000**	

Operating Impacts

No Operating Impact

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number: 28
Cost Estimate Title: Molecular Engineering Bldg. Ph 1
Report Number: CBS003
Date Run: 8/13/2008 8:37AM

Version: 01 2009-11, Draft
Project Number: 20082003
Project Title: Interdisciplinary Academic Building
Project Phase Title:
Agency Preferred: Yes

Contact Info **Contact Name:** Steve Tatge **Contact Number:** 206.897.1476

Statistics

Gross Sq. Ft.:	60,878
Usable Sq. Ft.:	33,940
Space Efficiency:	56%
MACC Cost per Sq. Ft.:	672
Escalated MACC Cost per Sq. Ft.:	729
Remodel?	No
Construction Type:	Laboratories (Research)
A/E Fee Class:	A
A/E Fee Percentage:	7.25%

Schedule

	Start Date	End Date
Predesign:	01-2007	12-2007
Design:	04-2008	04-2010
Construction:	12-2009	10-2011
Duration of Construction (Months):	22	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		400,000	
Construction Documents		2,089,265	
Extra Services		2,100,798	
Other Services		2,026,497	
Design Services Contingency		1,157,032	
Consultant Services Total			**7,773,592**
Site work		0	
Related Project Costs		0	
Facility Construction		44,359,595	
Construction Contingencies		6,653,939	
Non Taxable Items		0	
Sales Tax		5,238,558	
Construction Contracts Total			**63,444,758**
Maximum Allowable Construction Cost(MACC)	**44,359,595**		
Equipment		1,083,700	
Non Taxable Items		0	
Sales Tax		97,533	
Equipment Total			**1,181,233**
Art Work Total			**221,798**
Other Costs Total			**2,539,805**
Project Management Total			**3,338,814**
Grand Total Escalated Costs			**78,500,000**
Rounded Grand Total Escalated Costs			**78,500,000**

Additional Details

Alternative Public Works Project: Yes

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	28	**Report Number:**	CBS003
Cost Estimate Title:	Molecular Engineering Bldg. Ph 1	**Date Run:**	8/13/2008 8:37AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20082003		
Project Title:	Interdisciplinary Academic Building		
Project Phase Title:			

Contact Info **Contact Name:** Steve Tatge **Contact Number:** 206.897.1476

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	28	**Analysis Date:**	July 22, 2008
Cost Estimate Title:	Molecular Engineering Bldg. Ph 1		
Detail Title:	Mole E 09-11		
Project Number:	20082003		
Project Title:	Interdisciplinary Academic Building		
Project Phase Title:			
Location:	Seattle		

Contact Info **Contact Name:** Steve Tatge **Contact Number:** 206.897.1476

Statistics

Gross Sq. Ft.:	60,878
Usable Sq. Ft.:	33,940
Rentable Sq. Ft.:	
Space Efficiency:	56%
Escalated MACC Cost per Sq. Ft.:	729
Escalated Cost per S. F. Explanation	
Construction Type:	Laboratories (Research)
Remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.25%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule

	Start Date	End Date
Predesign:	01-2007	12-2007
Design:	04-2008	04-2010
Construction:	12-2009	10-2011
Duration of Construction (Months):	22	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 40,933,464
MACC (Escalated):	$ 44,359,595
Current Project Total:	$ 73,058,396
Rounded Current Project Total:	$ 73,058,000
Escalated Project Total:	$ 78,500,000
Rounded Escalated Project Total:	$ 78,500,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	400,000			
SubTotal: Pre-Schematic Design Services		**400,000**	1.0000	**400,000**
Construction Documents				
A/E Basic Design Services	2,047,697			
SubTotal: Construction Documents		**2,047,697**	1.0203	**2,089,265**
Extra Services				
Civil Design (Above Basic Services)	175,000			
Geotechnical Investigation	75,000			
Commissioning (Systems Check)	75,000			
Site Survey	30,000			
Testing	200,000			
Leadership Energy & Environment Design List(LEED)	85,000			
Voice/Data Consultant	40,000			
Constructability Review Participation	100,000			
Environmental Mitigation Services (EIS)	118,000			
Landscape Consultant	150,000			
Acoustical Consultant	72,000			
Haz Mat Consultant	31,000			
Elevator Consultant	10,000			
Communications Consultant	50,000			
Graphics	30,000			
Interior Design	200,000			
Specialty Lab Consultants	200,000			
Phasing/Early Bid Packages	60,000			
Quality Control Consultant	40,000			
Electronic AudioVisual	50,000			
Reimbursables/Doc Repro	100,000			
Electomagnetic Interference Consultant	73,000			
Lightin Design and Calculations	20,000			
Shoring Design	75,000			
SubTotal: Extra Services		**2,059,000**	1.0203	**2,100,798**
Other Services				
Bid/Construction/Closeout	919,980			
HVAC Balancing	150,000			
Constuction Support	800,000			
SubTotal: Other Services		**1,869,980**	1.0837	**2,026,497**
Design Services Contingency				
Design Services Contingency	637,668			
Change Order Design Allowance	430,000			
SubTotal: Design Services Contingency		**1,067,668**	1.0837	**1,157,032**
Total: Consultant Services		**7,444,345**	1.0442	**7,773,592**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	39,884,961			
Additional Escalation	1,048,503			
SubTotal: Facility Construction		**40,933,464**	1.0837	**44,359,595**
Maximum Allowable Construction Cost (MACC)		**40,933,464**	1.0800	**44,359,595**
GCCM Risk Contingency				
GCCM Risk Contingency	915,559			
SubTotal: GCCM Risk Contingency		**915,559**	1.0837	**992,191**
GCCM or Design Build Costs				

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
GCCM Fee	2,195,000			
Bid General Conditions	2,316,579			
GCCM Preconstruction Services	260,000			
Construction Support Services	950,000			
SubTotal: GCCM or Design Build Costs		**5,721,579**	1.0837	**6,200,475**
Construction Contingencies				
Management Reserve	2,046,673			
Allowance for Change Orders	4,093,346			
SubTotal: Construction Contingencies		**6,140,019**	1.0837	**6,653,939**
Sales Tax		**4,833,956**	1.0837	**5,238,558**
Total: Construction Contracts		**58,544,577**	1.0837	**63,444,758**
EQUIPMENT				
E10 - Equipment	500,000			
E20 - Furnishings	500,000			
SubTotal:		**1,000,000**	1.0837	**1,083,700**
Sales Tax		**90,000**	1.0837	**97,533**
Total: Equipment		**1,090,000**	1.0837	**1,181,233**
ART WORK				
Total: Art Work		**221,798**	1.0000	**221,798**
OTHER COSTS				
Mitigation Costs	1,780,000			
Permit, Insurance, Connectivity	638,862			
Total: Other Costs		**2,418,862**	1.0500	**2,539,805**
PROJECT MANAGEMENT				
Agency Project Management	2,753,814			
Contract Construction Management	540,000			
Preactive PM Fees	45,000			
Total: Project Management		**3,338,814**	1.0000	**3,338,814**

OFM

360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

*

Cost Estimate Number: 28
Cost Estimate Title: Molecular Engineering Bldg. Ph 1

Report Number: CBS003
Date Run: 8/13/2008 8:37AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20082003	20082003
Cost Estimate Number	28	28
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

Site for the Molecular Engineering Building (MEB) avoids vibration and electromagnetic issues caused by Sount Transit route

Proposed route of future northerly extension of the Sound Transit tunnel

Site of MEB

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

DENNY HALL RENOVATION

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Denny Hall		RENOVATION	20081002
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20081002
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	July 2007	December 2007
Design	April 2008	November 2009
Bid	August 2009	GCCM project will be bid in packages
Construction/Occupancy	December 2009	July 2011

2. Problem Statement (short description of the project – the needs and the benefits)

Constructed in 1895, Denny Hall is the oldest building on the Seattle campus and is listed in the Washington State Heritage Register. It has not had a major renovation in over 50 years. Denny Hall has been evaluated for seismic conditions and has been ranked as a “Priority One” building from the standpoint of seismic condition and occupancy, and must be strengthened to better resist earthquakes. In addition to structural seismic improvements, Denny Hall’s numerous ornamental masonry attachments must be better secured to the building’s structure. The building exterior must also be cleaned and sealed; interior architectural features must be preserved where appropriate in the building hallways and common areas. The project scope includes the replacement of the electrical, lighting, mechanical, and communications systems. A second elevator, replacement of the existing elevator, modifications to restrooms, ramping and other access improvements will also be included to meet current accessibility requirements in the renovation of this heavily used instructional building. The room layout is inefficient and does not support modern teaching and research requirements.

The project scope includes upgrading all major building systems, correcting seismic deficiencies, improving accessibility, abating hazardous materials, cleaning, repairing and sealing exterior stone and masonry foundations and walls, installing perimeter drainage, improving existing site, landscape and irrigation elements, and reconfiguring/replacing interior partitions, doors, hardware, finishes, and equipment to provide updated facilities for instructional programs. In accordance with the requirements of the state of Washington, the project will be designed to achieve Leadership in Energy and Environmental Design (LEED) Silver certification or higher. The benefits will include bringing the building into compliance with current building codes and accessibility standards.

3. History of the project or facility

In the University of Washington’s 2007-2009 Capital Budget Request the university requested $4,000,000 in state funding for a predesign study and design funding for the complete renovation of Denny Hall. Denny Hall has been prioritized for capital funding in the 2009-2011 biennium as part of the University’s ongoing “Restore the Core” renovation program to restore and modernize buildings in greatest need of renovation as documented in the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.*

Prior planning and building condition studies include:

The 2006 Limited Hazardous Materials Survey Report determined that many materials and finishes throughout the building contained asbestos, lead and/or silica-containing materials, and recommended the removal of all hazardous materials as part of a full building renovation.

The June 2006 *Condition Survey of Denny Hall* provided an overview of the building envelope and recommended a broad range of needed repairs. Most urgent was addressing exfoliation of sandstone creating potential life safety concerns and the pointing and repair of areas of the brick and masonry. Significant problems with the failure of foundation waterproofing and water seepage on the ground floor were also noted.

The March 2006 *University of Washington Electrical System Audit of Denny Hall* indicated that all existing branch circuit panel boards need to be replaced along with replacement of existing antiquated distribution panels to provide adequate core electrical service. Many of the branch circuit panels and breakers are so old that parts are no longer available. The switching needs to be upgraded to comply with the City of Seattle Energy Code. The fire alarm system does not match the UW campus standard Simplex system. Overhead lighting is outdated and inadequate and should be replaced.

The October 1991 *UW Earthquake Readiness Advisory Committee Report* established priorities for the seismic retrofitting of major capital facilities based on seismic condition studies, damage potential and life safety hazard. Denny Hall was ranked in the highest priority category in terms of potential damage because of its poor structural conditions and also of highest priority concern as a life safety hazard because of the large number of students, staff, and faculty occupying the building.

December 1990 *Phase II Building Condition Survey* discussed structural and seismic issues for Denny Hall and made recommendations for the repair and restoration of many exterior architectural elements as well as for strengthening the ability of the building to resist earthquake-related lateral forces.

The September 1990 *Evaluation of Submitted Masonry Samples, Recommendations for Conservation Treatment* provided detailed testing and technical information primarily about coatings to prevent further deterioration of the masonry.

4. University programs addressed or encompassed by the project

Four academic departments occupy Denny Hall: **Anthropology, Classics, Germanics and Near Eastern Languages and Civilization**. The Department of Anthropology is the largest department occupying approximately 19,400 assignable square feet of space. The Department of Germanics is the second largest department at 4,800 square feet and the Classics Department is the third with 3,800 square feet. The Department of Near Eastern Languages and Civilization is the smallest of the departments at 2,200 square feet, and is experiencing the greatest program growth.

Overall 23% of Denny Hall or approximately 12,000 square feet is dedicated to **general assignment classrooms**. In 2006-07 the Denny Hall general use classrooms served over 43 unique departments from across the University. The rooms served as the meeting location for over 1,000 unique courses which offered over 507,000 student contact hours during Autumn Quarter 2006, Winter Quarter 2007 and Spring Quarter 2007.

The **Language Learning Center** is also located in Denny Hall and occupies 6,400 assignable square feet. Although the Center occupies a relatively small percentage of the building area, it serves an increasing number of students and faculty from over fifteen departments and colleges. The Language Learning Center serves over 15,000 students each year that need access to computers with specialized language related software and technical expertise.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- **"Restore the Core"**
- **Increases the number of bachelor's degrees awarded**
- **Creates innovative, efficient facilities and programs that meet the learning needs of students throughout the state (HECB)**

By renovating this University treasure, the building will be transformed to meet the needs of today's students, faculty and staff. Learning has always occurred within the walls of Denny Hall but now it will be in classrooms and learning centers that adequately meet the rigorous standards and expectations of today. After remodeling and retrofitting over the years, Denny Hall is outdated and must be renovated to ensure its maximum efficiency and utility to meet the academic needs of students and faculty. This is consistent with the HECB master plan as well as recent legislative interest as expressed in previous capital budgets for "Restore the Core" projects.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after-hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from:
http://www.washington.edu/community/cmp_site/final_cmp.html

Denny Hall is located in the Seattle Campus central core where preservation and restoration are the primary concerns for the historic buildings. The Denny Hall Renovation project promotes specific goals in the University's Campus Master Plan:

The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.

- The renovation of Denny Hall, the oldest building on campus, reinforces the history of the original campus.

The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character, history, architecture and open space. The Campus Master Plan identifies and encourages preservation of historic resources and open space.

- The renovation of Denny Hall will bring the building into seismic compliance, will stabilize and restore the façade and ornamental details, and will upgrade the major building systems. Thus this project will ensure that Denny Hall will endure and serve the Campus for many decades to come.

The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.

- An accessible route will be created to offer people with disabilities entrances to and use of the building.

The Campus Master Plan should help create a safe and healthy environment, with personal and workplace considerations integral to planning and design of circulation elements, buildings and open space.

- The building renovation will include the abatement of hazardous materials, while the new construction will improve ventilation and use materials that are selected to minimize emissions. The seismic renovation of the building will strengthen the structure, and the exterior masonry and details will be anchored thus significantly increasing its life-safety performance in the event of an earthquake. Fire sprinklers, alarms and other safety features will also be included in the renovation.

The Campus Master Plan should value the environment and strive to promote the conservation of natural resources.

- The reuse of existing buildings is one of the most resource-efficient strategies available to an institution. The preservation of Denny Hall will also include the use of low-toxicity materials as well as sustainability harvested materials and renewable resources. Building systems, including electrical and plumbing systems, will be selected for their efficiency and mechanical systems will be minimized through the use of natural ventilation. The recycling and reuse of construction and demolition waste, to keep materials out of the waste stream, will be required of the contractor.
- The opportunity to use new landscaping that will allow for more daylighting opportunities into the ground floor.

Site development will conform to the stated Open Space, Circulation and Development Objectives, specifically:

- Incorporating accessibility to and into the building as an integral design element.
- Editing the overgrown existing plantings to address security issues.

Site Development will conform to the Master Plan Objectives by Area, as follows:

- Maintaining, conserving and building on the existing historic character, and complement the existing site context;
- Ensure that the character of new and renovated buildings and open spaces complement the existing context;
- Renew and rehabilitate buildings, infrastructure and the landscape;
- Ensure that new elements in the landscape, such as signage, bike facilities, and service areas, do not detract from the quality of the environment.

(b) Campus Facilities Plan and the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.* Constructed in 1895, Denny Hall needs major improvements or replacements of all major building systems. It is one of the fifteen buildings in greatest need of renovation on the Seattle campus. Based on the weighted criteria developed as part of this plan, and the surge fit planning for the use of Condon Hall as temporary surge space, Denny Hall is prioritized for renovation in Phase IV of the "Restore the Core" program and scheduled for predesign/design 07-09 (the predesign is completed and the design is in progress) and for construction in 2009-11. The study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf.
A brochure providing an overview of the "Restore the Core" program is included in the appendix.

(c) Strategic Plan.
The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. This project is a key step in the long-term capital plan to restore the University of Washington core academic facilities systematically over the next ten to fifteen years. The University of Washington's request for predesign and design funding for a renovation of Denny Hall is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - The Denny Hall renovation will provide state of the art classrooms with configuration and the technology needed to support modern teaching methods.
  - Bringing the building up to current Americans with Disabilities Act (ADA) code requirements will improve universal access to programs located in the building.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - Good quality research and teaching space is a prime factor in attracting and retaining the highest caliber of faculty and staff.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - A renovation of this magnitude that allows for the reconfiguration of all interior spaces recreates an opportunity to "right size" offices and laboratories, improving efficiency and usefulness. Important colocation needs will be addressed. Spaces for informal interaction are enhanced. These design factors contribute to a stronger and more productive professional community.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
  - The renovation of Denny Hall will provide modern space for the Language Learning Center (LLC). LLC supports language education and provides translation and online language services for units throughout the UW.
  - All of the academic programs in Denny Hall, Anthropology, Classics, Germanics and Near Eastern Languages and Civilization are engaged in research and education.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - The building will achieve LEED Silver requirements.
  - Life cycle costing has been used in the design process to make decisions that help ensure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

> Denny Hall Renovation is the second priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Request list, and our first priority in the Renovation category.

7. Age of Building Since Last Major Remodel:

a. Identify the number of years since the last substantial renovation of the facility. If only one portion of a building is to be remodeled, provide the age of that portion only. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

The last major renovation occurred in 1956 (52 years ago).

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. Condition of Building:

a. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2008 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

Denny Hall is rated a 4 in the 2008 Comparable Framework. A 2008 Comparable Framework summary and a more detailed Consolidated Building Audit performed by the University of Washington's Campus Engineering group in 2008 is provided in the appendix.

b. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Denny Hall is listed on the Washington State Heritage Register and is the oldest building on the Seattle campus. Elaborate ceremonies attended the laying of the building's cornerstone on July 4, 1894 with some 1,000 people present. On September 4, 1895 the University of Washington moved into the new building, which housed the offices of the president and regents, all university colleges, recitation rooms, classrooms, laboratories faculty rooms, a library, a museum, a music room, a student lounge, and the 736 seat "Denny Hall" auditorium named for Arthur A. Denny, who with his wife Mary, had in 1861 donated the ten acre tract in downtown Seattle for the original University of Washington campus. Denny Hall was already 14 years old when the Alaska-Yukon-Pacific Exposition was held on the UW campus in 1909.

10. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, or energy code requirements. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

The planned restoration scope will address structural/seismic, life safety, accessibility and other code deficiencies and will improve the building enclosure (windows and masonry systems) to ensure the long-term preservation of the facility and safety of its occupants. The project will also upgrade all major building systems including mechanical and electrical systems to improve performance and energy efficiency.

Applicable Standards and Codes:

Structural/Seismic:

Seattle Building Code - 2006 International Building Code (IBC) with City of Seattle Amendments

Primary areas of upgrade to improve Denny Hall's lateral load resisting capabilities will include a) new shear walls, foundations and micro-piles to reduce stresses in existing unreinforced masonry shear walls and b) improved attachment of existing floors to the exterior masonry walls.

Life Safety:

Seattle Building Code - 2006 International Building Code (IBC) with City of Seattle Amendments

Seattle Fire Code 2003

National Fire Protection Association (NFPA) Standards

University of Washington Laboratory Safety Design Guide

Denny Hall's fire protection systems will be improved by the addition of a) a fire sprinkler system throughout the facility, b) fire-resistive construction and c) opening protection with fire/smoke dampers at penetrations of shafts, area separation walls and rated walls.

Accessibility:

Americans with Disability Act (ADA)

ICC/ANSI A117.1 – 1998 Accessible and Usable Buildings and Facilities

Denny Hall's ADA compliance will be greatly improved by a) reconfiguring the existing accessible entry to bring it into compliance with ADA standards, b) providing a second ADA accessible entry with new elevator(s) having direct access to the exterior and accessible parking and c) reconfiguring all toilet facilities and other interior improvements to meet ADA requirements, such as maneuvering requirements, door hardware, controls and operating systems.

Energy:

International Mechanical Code with City of Seattle Amendments

Washington State Energy Code with City of Seattle Amendments

Strategies to reduce Denny Hall’s energy use, the goal of which is to bring Denny Hall up to LEED Silver certification, will include a) an exterior enclosure system with improved thermal performance, b) an improved natural ventilation system, c) new mechanical and electrical systems which exceed ASHARE 90.1-2004 energy performance and d) improved natural day lighting.

A predesign of Denny Hall completed in 12/2007 is available upon request.

11. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The first two projects are geographically located in our region, and on the University of Washington’s campus. The projects listed represent a comparable analysis of the scope of work, based on office and classroom space. Page Hall (93.9) was increased by 111.0% for location adjustments. Page Hall consists of 45% office, 20% classroom, 14% lounge, 9% computer lab and 12% other. The School of Administration at Cornell University has a location adjustment increase of 110.6%. Binghamton, NY’s location factor is 94.2 versus Seattle’s at 104.2. Sales tax was added to these costs to correlate with the project costs at the UW. This project consists of 20% classroom, 40% lecture hall, 15% core and 25% misc. The Building 160 at Stanford is a renovation that consists of 49% classroom, 48% office and 4% café. The Smith Center at WSU houses 17 classrooms and 2 auditorium style classrooms, supported by state of the art audio-visual technologies. A student computer lab and departmental areas are also included. These location factors are based on RS Means Facilities Construction Cost Data 2006.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Denny Hall	University of Washington, Seattle, WA	87,549	$56,915,000	$650.09	Jul 2011	0%	$650.09
Savery Hall	University of Washington, Seattle, WA	102,105	$61,510,000	$602.42	Jul 2009	9.9%	$662.06
Guggenheim Hall	University of Washington, Seattle, WA	57,504	$28,287,115	$530.53	Aug 2007	25%	$663.16
Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept 2004	60.4%	$985.50

School of Hotel Administration	Cornell University Ithaca, NY	54,000	$19,583,892	$362.66	Aug 2004	61.5%	$585.70
Building 160	Stanford University Palo Alto, CA	71,400	$26,558,879	$371.97	Jun 2002	80.2%	$670.29
Smith Center	Washington State University, Pullman, WA	102,050	$45,238,226	$443.29	Oct 2001	83.0%	$811.22

Construction Delivery method: The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions regarding the configuration of the construction staging area and methods of construction. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

12. 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.

The size of classrooms, instructional labs, and offices in the Denny Hall renovation comply with or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility:	46,672 ASF
(b) Gross square feet (GSF):	87,549 GSF
(c) Net building efficiency (ASF divided GSF):	53%

13. Adequacy of Space:

Describe whether and the extent to which the project is needed to meet modern pedagogical standards and/or to improve space configurations, and how it would accomplish that.

Faculty cannot currently carry out many modern teaching programs due to the existing constraints of the antiquated building systems and interior configuration. The building’s insufficient ventilation, electrical, audio-visual and other systems limit the utilization of teaching spaces.

The intent is to develop a building that has a logical, flexible interior layout including improved circulation and way finding, with a new modern infrastructure that supports both current program requirements and future adaptation.

- Upgraded building systems including:
  - power (the added power demands for current multi-media equipment frequently exceed the available circuitry in older rooms/buildings);
  - revamped lighting with controllable lighting levels necessary for the multi-media equipment and presentations;

  - new acoustic properties to enhance the understandability of the spoken word (both instructor-to-student as well as student-to-student and student-to-instructor interchanges);
  - improved building ventilation, cooling and heating to solve the current problems of rooms that are either too cold or too hot, and
  - upgraded life safety (seismic upgrades, fire system upgrades).
- New multimedia infrastructure and equipment including:
  - Conduit/pathways between multimedia equipment and the instructors;
  - Digital projection and playback equipment permanently installed in the classrooms (e.g. data projectors, DVD players);
  - Program sound systems (for playing back sound tracks on PowerPoint embedded materials, educational DVDs, etc.);
  - Integrated equipment and room controls allowing quick and seamless transition from computer displays, digital programs (e.g. DVDs), document cameras, etc., and
  - Course capture equipment for automatic recording of courses and presented course materials for student review and study.
- New student furniture that supports:
  - the ergonomic requires demanded by the changing class patterns (moving from 50-minute class sessions to 90- and 120-minute class sessions);
  - growing use of laptop computers by students;
  - the change from “lecture” to “active learning” requiring easily reconfigurable tables/chair furniture vs. the old “fixed to the floor” tablet-arm chairs, and
  - the recognition that classrooms should be welcoming and comfortable to enhance student understanding and learning.
- Upgraded and new compliance with federal and state accommodation requirements for students and instructors with special needs (e.g. ramps, height-adjustable furniture, assisted listening systems, etc.
- Upgraded spaces outside the classrooms (e.g. lobbies and hallways) that allow students to gather in small groups with each other or with instructors in ad hoc and informal learning spaces (as a continuation of the formal learning taking place inside the classroom).
- The ability to create new types of classrooms, such as Case Study style rooms, small group breakout rooms, multimedia enriched classrooms, etc.

14. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	30,307	65%
Student Advising/Counseling Services	120	Less than 1%
Childcare	0	0%
Faculty offices	10,694	23%
Administrative	5,551	12%
Maintenance/Central Stores/Student Center	0	0%
Total	46672	100%

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number:	**20081002**
Project Title:	**Denny Hall Renovation**

Description

Starting Fiscal Year:	2008
Project Class:	Preservation
Agency Priority:	4

Project Summary

This is a re-appropriation request and a request for 2009-11 state construction funding of $52,915,000. Constructed in 1895, Denny Hall is the oldest building on the Seattle campus. Due to its age, architectural qualities, and historical significance, being named after one of the families instrumental in having the UW established, the building is on the Washington State Heritage Register. Denny Hall is a significant source of instructional space and contains 22 general assignment classrooms with a capacity of 765 seats. Denny Hall houses the Departments' of Anthropology, Classics, Germanics, Near Eastern Languages & Civilization. In addition to these classroom spaces, the University's Language Learning Center, which serves more than 15,000 students annually, is located in the basement level of Denny Hall. This project is one of fifteen buildings in the "Restore the Core" program of major building renovations described in the June, 2004 UW building Restoration & Renewal Prioritization Study.

Project Description

This is a re-appropriation request and a request for 2009-2011 state construction funding of $52,915,000. Construction is scheduled to start in late 2009 and will be completed in 2011. Denny Hall is the oldest building on UW's Critical Building List. The fifteen buildings on the list are an integral part of the Seattle campus and have occupied a prominent position in the University's history and culture throughout most of the twentieth century. There are clear indications throughout the interior of the building that a major renovation of Denny Hall is necessary. The Design phase will be completed in 2009 and will address deficiencies which include: communications infrastructure, electrical distribution and mechanical systems, as well as water infiltration and related water damage to the building perimeter and basement. The building infrastructure and systems are in a dire state of condition which requires total replacement and/or major renovation. A thorough review and study of the facility is being accomplished to determine specific scope for the renovation. The Denny Hall Renovation project will be a complete replacement and renovation of building systems, refurbishment of the building's exterior and interior features and full seismic up grade. The estimated total project total is $56,915,000.

Proviso

See attachment for Growth Management Act

Location

City: Seattle
County: King
Legislative District: 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

See Attachment for GMA

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	**Account Title**	**Estimated Total**	**Prior Biennium**	**Current Biennium**	**Reapprops**	**New Approps**
057-1	State Bldg Constr-State	56,972,415		3,057,415	1,000,000	52,915,000
	Total	**56,972,415**	**0**	**3,057,415**	**1,000,000**	**52,915,000**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20081002
Project Title: Denny Hall Renovation

Funding

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State				
	Total	0	0	0	0

Schedule and Statistics

	Start Date	End Date
Predesign	02/01/2007	12/01/2007
Design	4/1/2008	11/1/2009
Construction	12/1/2009	7/1/2011

	Total
Gross Square Feet:	87,549
Usable Square Feet:	43,957
Efficiency:	50.2%
Escalated MACC Cost per Sq. Ft.:	364
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.59%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		0	0.0%
Consultant Services			
Pre-Schematic Design Services		275,000	0.5%
Construction Documents		1,785,043	3.1%
Extra Services		1,640,679	2.9%
Other Services		1,322,614	2.3%
Design Services Contingency		729,019	1.3%
Consultant Services Total		5,752,355	10.1%
Maximum Allowable Construction Cost(MACC)	31,892,381		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		31,892,381	56.0%
GCCM Risk Contingency		788,623	1.4%
GCCM or Design Build Costs		3,978,046	7.0%
Construction Contingencies		4,783,858	8.4%
Non Taxable Items		0	0.0%

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20081002
Project Title: Denny Hall Renovation

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Sales Tax	3,729,861	6.6%
Construction Contracts Total	**45,172,769**	**79.4%**
Equipment		
Equipment	1,990,230	3.5%
Non Taxable Items	0	0.0%
Sales Tax	179,121	0.3%
Equipment Total	**2,169,351**	**3.8%**
Art Work Total	**159,462**	**0.3%**
Other Costs Total	**704,631**	**1.2%**
Project Management Total	**2,956,432**	**5.2%**
Grand Total Escalated Costs	**56,915,000**	
Rounded Grand Total Escalated Costs	**56,915,000**	

Operating Impacts

No Operating Impact

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	23	**Report Number:**	CBS003
Cost Estimate Title:	Denny Hall Renovation Design	**Date Run:**	8/13/2008 8:34AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20081002		
Project Title:	Denny Hall Renovation		
Project Phase Title:			

Contact Info **Contact Name:** Randy Everett **Contact Number:** 206.543.8776

Statistics

Gross Sq. Ft.:	87,549
Usable Sq. Ft.:	43,957
Space Efficiency:	50%
MACC Cost per Sq. Ft.:	339
Escalated MACC Cost per Sq. Ft.:	364
Remodel?	Yes
Construction Type:	College Classroom Facilities
A/E Fee Class:	B
A/E Fee Percentage:	8.59%

Schedule

	Start Date	End Date
Predesign:	02-2007	12-2007
Design:	04-2008	11-2009
Construction:	12-2009	07-2011
Duration of Construction (Months):	19	

Cost Summary Escalated

Acquisition Costs Total			0
Pre-Schematic Design Services		275,000	
Construction Documents		1,785,043	
Extra Services		1,640,679	
Other Services		1,322,614	
Design Services Contingency		729,019	
Consultant Services Total			**5,752,355**
Site work		0	
Related Project Costs		0	
Facility Construction		31,892,381	
Construction Contingencies		4,783,858	
Non Taxable Items		0	
Sales Tax		3,729,861	
Construction Contracts Total			**45,172,769**
Maximum Allowable Construction Cost(MACC)	**31,892,381**		
Equipment		1,990,230	
Non Taxable Items		0	
Sales Tax		179,121	
Equipment Total			**2,169,351**
Art Work Total			**159,462**
Other Costs Total			**704,631**
Project Management Total			**2,956,432**
Grand Total Escalated Costs			**56,915,000**
Rounded Grand Total Escalated Costs			**56,915,000**

Additional Details

Alternative Public Works Project: Yes

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Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	23	**Report Number:**	CBS003
Cost Estimate Title:	Denny Hall Renovation Design	**Date Run:**	8/13/2008 8:34AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20081002		
Project Title:	Denny Hall Renovation		
Project Phase Title:			

Contact Info **Contact Name:** Randy Everett **Contact Number:** 206.543.8776

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	08-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	23	**Analysis Date:**	July 22, 2008
Cost Estimate Title:	Denny Hall Renovation Design		

Detail Title:	Denny Hall Renovation
Project Number:	20081002
Project Title:	Denny Hall Renovation
Project Phase Title:	
Location:	Seattle

Contact Info	**Contact Name:**	Randy Everett	**Contact Number:**	206.543.8776

Statistics

Gross Sq. Ft.:	87,549
Usable Sq. Ft.:	43,957
Rentable Sq. Ft.:	
Space Efficiency:	50%
Escalated MACC Cost per Sq. Ft.:	364
Escalated Cost per S. F. Explanation	
Construction Type:	College Classroom Facilities
Remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.59%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule	Start Date	End Date
Predesign:	02-2007	12-2007
Design:	04-2008	11-2009
Construction:	12-2009	07-2011
Duration of Construction (Months):	19	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	8-2008	

Project Cost Summary

MACC:	$ 29,645,270
MACC (Escalated):	$ 31,892,381
Current Project Total:	$ 53,349,508
Rounded Current Project Total:	$ 53,350,000
Escalated Project Total:	$ 56,915,000
Rounded Escalated Project Total:	$ 56,915,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	275,000			
SubTotal: Pre-Schematic Design Services		**275,000**	1.0000	**275,000**
Construction Documents				
A/E Basic Design Services	1,757,105			
SubTotal: Construction Documents		**1,757,105**	1.0159	**1,785,043**
Extra Services				
Civil Design (Above Basic Services)	50,000			
Geotechnical Investigation	30,000			
Commissioning (Systems Check)	140,000			
Site Survey	30,000			
Testing	220,000			
Leadership Energy & Environment Design List(LEED)	140,000			
Voice/Data Consultant	50,000			
Value Engineering Participation & Implementation	15,000			
Constructability Review Participation	15,000			
Environmental Mitigation Services (EIS)	40,000			
Landscape Consultant	75,000			
Acoustical Consultant	25,000			
Bid Alternates	20,000			
Electronic/Audio Visual Consultant	40,000			
Elevator Consultant	15,000			
Graphics	25,000			
Haz Mat Consultant	210,000			
Interior Design	160,000			
Specialty Consultant	150,000			
Quality Control Consultant	50,000			
Renderings, Presentations	5,000			
Document Reproduction	110,000			
SubTotal: Extra Services		**1,615,000**	1.0159	**1,640,679**
Other Services				
Bid/Construction/Closeout	789,424			
HVAC Balancing	50,000			
Staffing	325,000			
As Builts	40,000			
DRB Small Contracts	25,000			
SubTotal: Other Services		**1,229,424**	1.0758	**1,322,614**
Design Services Contingency				
Design Services Contingency	487,653			
Change Order Design Allowance	190,000			
SubTotal: Design Services Contingency		**677,653**	1.0758	**729,019**
Total: Consultant Services		**5,554,182**	1.0357	**5,752,355**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	26,857,000			
Additional Escalation	2,788,270			
SubTotal: Facility Construction		**29,645,270**	1.0758	**31,892,381**
Maximum Allowable Construction Cost (MACC)		**29,645,270**	1.0800	**31,892,381**
GCCM Risk Contingency				
GCCM Risk Contingency	733,057			
SubTotal: GCCM Risk Contingency		**733,057**	1.0758	**788,623**
GCCM or Design Build Costs				

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
GCCM Fee	1,416,879			
Bid General Conditions	1,430,877			
GCCM Preconstruction Services	200,000			
Reimbursables	650,000			
SubTotal: GCCM or Design Build Costs		**3,697,756**	1.0758	**3,978,046**
Construction Contingencies				
Management Reserve	1,482,264			
Allowance for Change Orders	2,964,527			
SubTotal: Construction Contingencies		**4,446,791**	1.0758	**4,783,858**
Sales Tax		**3,467,058**	1.0758	**3,729,861**
Total: Construction Contracts		**41,989,932**	1.0758	**45,172,769**
EQUIPMENT				
E10 - Equipment	650,000			
E20 - Furnishings	1,200,000			
SubTotal:		**1,850,000**	1.0758	**1,990,230**
Sales Tax		**166,500**	1.0758	**179,121**
Total: Equipment		**2,016,500**	1.0758	**2,169,351**
ART WORK				
Higher Ed Artwork	159,462			
Total: Art Work		**159,462**	1.0000	**159,462**
OTHER COSTS				
Metro Connection Fees	25,000			
Building Permit	348,000			
Builders Risk Insurance	70,000			
Connectivity	150,000			
Shutdowns and Internal Services	80,000			
Total: Other Costs		**673,000**	1.0470	**704,631**
PROJECT MANAGEMENT				
Agency Project Management	2,613,857			
Contract Construction Manager	300,000			
Predesign PM Fees	42,575			
Total: Project Management		**2,956,432**	1.0000	**2,956,432**

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Cost Estimate Summary and Detail
2009-11 Biennium

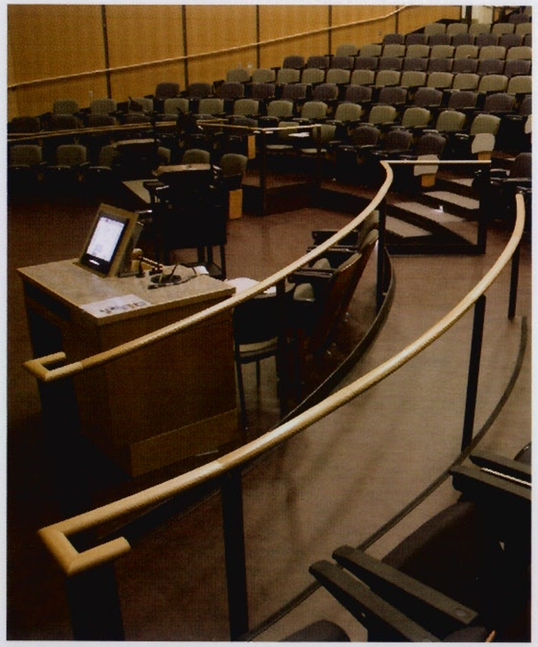
*

Cost Estimate Number: 23
Cost Estimate Title: Denny Hall Renovation Design

Report Number: CBS003
Date Run: 8/13/2008 8:34AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20081002	20081002
Cost Estimate Number	23	23
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

The Results



Architecture Hall

Guggenheim Hall

The Next Phase

DENNY HALL opened in 1895 and is the oldest building on campus. It was named for Arthur Denny, the pioneer who donated the majority of the University's original 10-acre downtown tract. Denny Hall is home to the Departments of Anthropology, Classics, Germanics, and Near East Studies.

Denny Hall, then and now

LEWIS HALL is among the oldest buildings on campus, and was built as a dormitory for men in 1899. Named after the famous Pacific Northwest explorer Meriwether Lewis, Lewis Hall is the future home of the Information School.

Lewis Hall, then and now

BALMER HALL will be completely rebuilt as a component of the University's new Business School Complex.

The Benefits

REFURBISHED BUILDINGS WILL:

- Meet current seismic and safety requirements
- Provide modern technology to students, faculty and staff
- Conserve resources through sustainable design and LEED® Silver certification

RESTORE THE CORE'S efficient schedule allows projects to be completed in a four-year span, rather than six. This accelerated schedule has saved $18 million in state funds to date.

- Architecture Hall: $4.7 million saved
- Guggenheim Hall: $6.1 million saved
- Johnson Hall: $7.2 million saved

GENERATIONS of Washington citizens have helped create the campus facilities that support a world-class education at the University of Washington. The Restore the Core program will ensure these benefits for future generations.

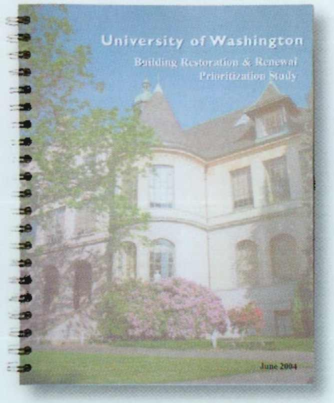
Consultants: Ira Fink and Associates, Inc.
Otak, Inc.

RESTORING THE CORE

The University of Washington's major program of building restoration is at the halfway mark

The Plan

THE UNIVERSITY'S *Building Restoration & Renewal Prioritization Study* of 2004 established a plan to renew and renovate fifteen significant buildings on the Seattle Campus.



The deteriorating condition of these buildings—providing more than 900,000 gross square feet, and housing more than 40 academic programs—was threatening our ability to deliver core campus functions in teaching, research, and public service.

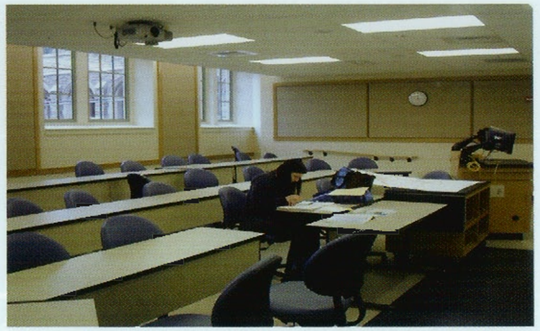
In recognition of the need to protect and renew the priceless resource that our academic buildings represent, the University has focused its attention on restoring our core campus facilities so that they may be used and enjoyed by future generations.

Restoration Schedule

PHASING SCHEDULE	Phase I 2003–2005	Phase II 2005–2007	Phase III 2007–2009	Phase IV 2009–2011	Phase V 2011–2013	Phase VI 2013–2015
PLANNING/ DESIGN	Architecture Hall Guggenheim Hall	Savery Hall Clark Hall Playhouse Theater MHSC H-Wing	**Denny Hall** **Lewis Hall** **Balmer Hall**	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall	—
CONSTRUCTION	Johnson Hall	Architecture Hall Guggenheim Hall	MHSC H-Wing Savery Hall Clark Hall Playhouse Theater	Denny Hall Lewis Hall Balmer Hall	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall

The Progress

Construction funding for the renovation of Johnson Hall was approved by the state in the 2003-2005 capital budget.



Renovation of Johnson Hall was completed in 2005.

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

August 15, 2007 B&P 1181

Consolidated Building Audit for:

Denny Hall

By: Campus Engineering

General

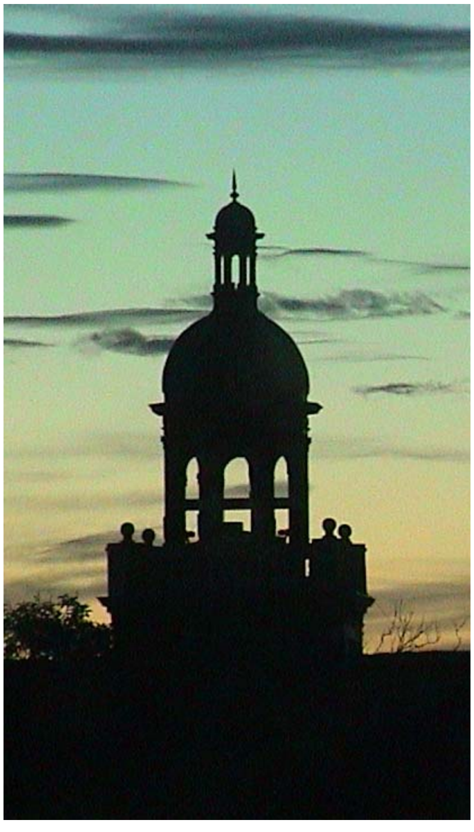
This report reflects the status of existing building system components and infrastructure of **Denny Hall** and any maintenance and/or operational issues related to these systems. We also have preliminary recommendations for repairs or renewal of these systems.

Please note that our audit does not replace the need of a detailed investigation and evaluation. We merely point out known issues now for awareness and so that they are addressed early.

Background

Denny Hall was designed by Charles W. Saunders and built in 1895, as the original Administration Building with classrooms and a large auditorium. The original building is of heavy timber and masonry construction. The original assembly hall was divided into classrooms in 1910. The building was given a substantial structural and interior renovation in 1956 when the auditorium was converted to additional office space. The building is in the Washington State Heritage Register.

A seismic evaluation of Denny Hall had been conducted in December 18, 1990 by Ratti Swenson Perbix Clark. This report is available at Campus Engineering – Records.



The original Denny Hall had three interior floors of wood framing. The 1954 renovation had changed it to four concrete and steel floors at different elevations. The building maintains its original roof and exterior masonry walls. Reinforced concrete walls were installed for air duct and stair wells.

The building is in T-shape, the north wing is 55’x91’ and the south wing is 126’x70’. The main roof is about 78’ above grade and the cupola on top of it is about 32’ tall.

The roof and cupola are made of wood framing. The exterior wall is a mixture of brick and sandstone and support on stone wall footing. The 1954 steel columns bear on reinforced concrete square or rectangular footings.

In 2004, Merritt Architects and Perbix Bykonen Structural Engineers were retained to retrofit the roof. The design was performed in accordance with 1997 Edition of UBC. The Cupola was refurbished at a warehouse in Everett, new plywood roof diaphragm and roofing material was installed, roof diaphragm was tied to the walls, and deteriorated structural members were replaced and/or refurbished. The chimneys were braced back at five locations. Fall arrest anchors were installed. Project was completed in 2005.

Denny Hall is located at the north end of campus which is zone A of UW seismic hazard map, based on FEMA Table 2.1, the site coefficient S=1.2.

Building Condition: Architectural

Exterior Walls and Windows

Background/Problems:

In 1990, a major restoration of the masonry exterior was conducted by University Physical Plant. Walls were repaired, pointed and sealed. Four of the existing brick chimneys were removed and their component parts have since been lost. Existing foundation level facing is grey sandstone. This facing is suffering greatly from deterioration of the natural binders that hold the stone together. Primary causes of this deterioration are water absorption and environmental pollutants. A study of the existing sandstone facing was made in 1989 by MSSC of Kansas City. This study shows that future deterioration can be halted if water borne contaminates can be kept out of the masonry. There has been a reoccurring problem of water infiltration through the foundation walls. This has resulted in damaged interior materials and room finishes.

Windows are steel sash with single pane glazing.

Recommendations:
The MSSC study makes recommendations for treating the grey sandstone to preserve its useful life. It does not address corrective measures for repairing already damaged stone. A consultant should be hired to study this report, perform any additional investigation needed to confirm current conditions, and to design remedial measures. Since it has been over 15 years since the last masonry sealing, the entire building should be cleaned and re-sealed. All windows should be replaced to improve building energy efficiency. The foundation wall should be exposed and waterproofed.

Foundation Drain and Waterproofing

Background/Problems:
There are ongoing moisture and water intrusion problems into the basement. At times, moisture appears to be entering through the basement walls and floor as evidenced by blistering paint and minor spalling on interior of basement walls.

A perimeter drain and waterproofing design was performed in 2006, Capital Project No. 10444.

Recommendation:
To prevent moisture from entering the basement, an exterior footing drain should be provided and waterproofing at exterior of basement perimeter should be performed.

Refer to Capital Project No. 10444 for perimeter drain and exterior waterproofing design.

Roofing

Background/Problems:
Slate roofing, copper flashing, copper roofing & wall sheathing were replaced and the cupola refurbished in 2005.

Recommendations:
Major improvements or upgrades to the roof are not necessary. It is fairly new and in good condition. Replacement or upgrades to the roof are not expected until the end of the roofing system life cycle (approximately 2105).

Floors & Finishes

Background/Problems:
The corridors are typically VAT/VCT in fair to good condition. The 2nd floor (main) corridor is a combination of terrazzo and VAT/VCT in good condition. The classrooms typically have VCT and some 4th floor classroom/seminar have carpet, both in good condition. The offices have a combination of carpet and VAT/VCT in fair to good condition.

Recommendations:
Replace floor finishes as needed.

Walls and Finishes

Background/Problems:
Walls are painted GWB, plaster and concrete in good condition. Restrooms have tile wainscots with painted plaster above in fair condition.

Recommendations:
Refinish walls as needed.

Ceilings and Finishes

Background/Problems:
Ceilings are a combination of painted plaster, glued on ACT and suspended ACP. All are in generally good to fair condition.

Recommendations:
Refinish/replace ceilings as needed.

Doors and Hardware

Background/Problems:
Doors are solid core wood with a transparent finish. The majority of the doors have knob type hardware with a small number of doors with lever hardware. All doors are in generally fair condition.

Recommendations:
Refinish doors as needed and provide accessible hardware on all doors.

Vertical Transportation

Background/Problems:
Elevator #50 is a passenger type with a capacity of 2,500 lbs. The interior finishes are painted metal walls and ceiling and ceramic tile floor. All finishes are in poor condition.

Recommendations:
Upgrade the elevator equipment and car interior to current codes and FDI. Add a second elevator to maintain accessibility in the event of shutdown of the existing elevator.

Accessibility

Background/Problems:
The accessible entry is on the 1st floor and the other floors are served by the single elevator. Only the 1st floor restrooms are accessible. The other restrooms are inaccessible due to inadequate door clearance or inadequate space to accommodate a person in a wheelchair.

Recommendations:
Provide an additional accessible entry, and provide accessible restrooms on all floors.

Energy Code Compliance

Background/Problems:
This building does not comply with the current Seattle Energy Code.

Recommendation:
Comply with the current Seattle Energy Code and LEED requirements.

Building Condition: Structural

Background/Problems:
The structure is a mixture of shear walls on the exterior and concrete encased steel columns and reinforced concrete floor diaphragms on the interior. The tie between the original construction and 1956 construction is minimal. Building was designed and constructed prior to the adoption of modern seismic codes.

A seismic evaluation of Denny Hall had been conducted in December 18, 1990 by Ratti Swenson Perbix Clark. This report is available at Campus Engineering – Records.

Recommendations:
Evaluate seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a “Life Safety” performance level (as defined by ASCE 31). Design any upgrades per ASCE 41, reference to FDI for seismic analysis & upgrade.

Building Condition: Civil & Site Utilities

Domestic Water

Background/Problems:
The 4” domestic water main enters the mechanical room from the south side of the building under the main stairwell entry. The piping material is galvanized steel and was installed in 1956.

Recommendation:
Replace existing galvanized main with ductile iron with cement lining from building to existing 6” valve located on south side of building. Provide water meter and connect to building DDC system.

Sanitary Sewer

Background/Problems:
The 6” clay sanitary sewer exits the building on the west side and is routed to an existing manhole.

Recommendation:
The existing 6” clay sanitary sewer should be replaced with a new from the building to the existing manhole and any cracks inside the existing manhole should be sealed.

Storm Drainage

Background/Problems:
The 6” clay storm drainage piping is routed from the west side of the building and appears to connect to the storm drainage system adjacent to Memorial Way.

Recommendation:
Replace existing 6” clay storm drain piping, including rain leaders, from building to first storm drain manhole. It should be verified if the existing storm drainage system connects to a dedicated storm drainage system or a combined sewer.

Site Irrigation System

Background/Problems:
The irrigation system is incomplete. Landscape improvements are likely to deteriorate without a complete irrigation system.

Recommendation:
Provide complete and automated irrigation system, including an irrigation meter for landscaped areas.

Fire Protection Service

Background/Problems:
Contact University of Washington Environmental Health and Safety Department for additional information.

Recommendation:
Contact University of Washington Environmental Health and Safety Department for specific requirements.

Building Condition: Mechanical Systems

Utility Distribution Systems from the Tunnel

Background/Problems:
The building is served by the central utilities: 8” low pressure steam, 2-1/2” gravity condensate return, and 1-1/2” compressed air. These utilities are fed from the Main Campus Tunnel Manhole MC-14 and enter the building in the basement on the southeast side. Services from the tunnel to the building were updated in 1996.

Recommendations:
Provide a condensate meter connected to building DDC system.

Plumbing Systems

Background/Problems:
The 4” domestic water main and system is galvanized pipe. The water main has no strainer, backflow preventer, or meter. The plumbing fixtures have been replaced recently. A steam to water converter provides domestic hot water for the building.

Recommendations:
Abate insulation and provide new water piping with strainer, backflow prevention, steam to water converter and meter/sub-meters connected to building DDC system. Replace existing fixtures with low flow fixtures. Replace all plumbing, sanitary sewer, and storm drain (rain leader, roof drains, etc) piping inside the building.

Ventilation System

Background/Problems:
The building is served by five supply fans; 30,000 cubic feet per minute (cfm) total, seven exhaust fans provide general building exhaust, one fan serves all the toilet exhaust and one fume exhaust fan serves a lab. The main fans, located in the 5th floor fan room, have exceeded their service life but are maintained in satisfactory operating condition. The system is not balanced and the building is under negative pressure.

Recommendations:
The ventilation system has exceeded its expected service life and should be replaced.

Heating Systems

Background/Problems:
Low pressure steam is provided for preheat and final heating for the main supply fans. A shell and tube, steam to water heat exchanger is located in the basement mechanical room, which provides heating hot water for radiant baseboard heaters throughout the building perimeter. The steam coils in main supply fans are not efficient and are difficult to control.

Recommendations:
The entire heating system has exceeded its expected service life and should be replaced.

Cooling Systems

Background/Problems:
Except for some small unitary air handling units serving specific parts of the building, no air condition (cooling) is provided in majority of the building.

Recommendations:
Provide better Ventilation system to improve air movement.

Control System

Background/Problems:
The building has a pneumatic Johnson control system.

Recommendations:
The control system should be replaced with new DDC system.

Building Condition: Electrical Systems

Electrical (Normal Power) Service Connection and Main Transformer

Background/Problems:
Denny Hall is currently fed from the 13.8kV normal system via a new S&C switch located in vault NW7A. The building vault located adjacent to the main building stairwell houses the 300KVA 13.8KV/208V dry type service transformer.

Recommendation:
The existing connection to the campus primary distribution system shall be maintained. The existing 13,800/208/120V main transformer, 300kVA may be reused if the load stays below the 300 kVA rating. If there is a significant load increase and 480V service is required, then a new 13,800/480/277V transformer and associated switchgear will be required to replace the 300kVA, 13,800/208/120V transformer and switchgear.

Service Entrance Equipment

Background/Problems:
The building is served at 208/120V from a 300kVA transformer in the service entrance vault. It is connected to the main switchboard through a 1600 amp bus. The main switchboard has a single 2000A safety switch that feeds 23 molded case Square D circuit breakers. This equipment is quite old, spares are not available and it cannot be depended upon to provide adequate, dependable power to the building.

Recommendation:
It is recommended to replace the main switchboard. (These would still needs to be replaced even if the 300kVA main transformer is reused.)

Distribution System

Background/Problems:
The branch circuit panel boards are mostly Square D of indeterminate age. The majority of the branch circuit panels were installed in the 1954 renovation. This equipment is old and spares are not available. They are unreliable to provide adequate, dependable power to the building.

Recommendation:
Replace all branch circuit panel and distributions boards.

Conduit/Wiring

Background/Problems:
Most conduit and wiring is over 40 years old.

Recommendation:
Replace all existing feeders and raceways.

Motor Control Centers

Background/Problems:
Single SquareD with indicating lights and start/stop buttons.

Recommendation:
Replace as required to feed new mechanical equipment.

Emergency Power

Background/Problems:
There is no emergency power feed to the building. There is a tap ahead of main that feeds lighting and other life safety loads.

Recommendation:
The existing configuration does not comply with current Life Safety Codes and must be upgraded to a connection to the campus Emergency and Standby Power System (ESPS). This will be achieved by connecting into the existing 2.4KV emergency system located in manhole NW4 or NW7. All equipment should be 5KV rated for future connection to the 4.16KV emergency system when it becomes available. This includes a dual-wound transformer that can be connected DELTA-WYE at both 2.4KV and 4.16KV.

Lighting

Background/Problems:
The majority of the lighting in this building is 2x4' acrylic prismatic troffers with electronic ballasts and T8 lamps. Some areas are using 2x2' fixtures. Lighting does not meet the current Seattle Energy Code.

Recommendation:
Replace all existing fixtures with new lighting systems that meet the Seattle Energy Code.

Lighting Control

Background/Problems:
The lighting control is mostly single switches controlling each room, which is not compliant to the Seattle Energy Code.

Recommendation:
Replace lighting control system to meet the Seattle Energy Code.

Emergency/Egress Lighting

Background/Problems:
Existing emergency/egress lightings are fixtures retrofitted with various battery powered units of indeterminate age and quality/condition.

Recommendation:
Removed all battery powered units and provide new emergency/egress lighting system and fixtures connected to the new emergency power system mentioned above.

Building Condition: Signal

Access Control Systems

Background/Problems:
There is no access control system (CAMMS) in this facility.

Recommendation:
Install complete access control system (CAMMS) or infrastructure if required.

Fire Alarm Systems

Background/Problems:
A Simplex 4100U system was installed in 2005, and is connected to the central campus networked system.

Recommendation:
Confirm that the existing system complies with current campus standard and replace/upgrade if necessary.

Master Clock Systems

Background/Problems:
Clock system is connected to central system.

Recommendation:
Update to current requirements.

S. Howard – Architectural
KC Chen – Structural
Y L Chan – Civil & Mechanical
F. Pitz – Electrical

cc:
rt: ES Box 352165
cn: Central file Path

2008 Comparable Framework
Building Renewal, Repair, and Facility Improvements Summary
Denny Hall

Category (Uniformat)	Description	Condition Score
Superstructure (A: Substructure)	Structural and seismic repairs: The building was designed and constructed prior to the adoption of modern seismic codes. The structure is a mixture of shear walls on the exterior and concrete encased steel columns and reinforced concrete floor diaphragms on the interior. The tie between the original construction and 1956 construction is minimal. Water infiltration through the foundation walls has resulted in damaged interior materials and room finishes. The foundation wall should be exposed and waterproofed to prevent moisture from entering the basement should be provided.	5
Exterior (B: Shell)	Exterior repairs and renewal: The entire building should be cleaned and re-sealed. Windows are steel sash with single pane glazing, thus all windows should be replaced to improve building energy efficiency.	4
Roof & Envelope (B: Shell)	Repair and replace roofing and envelope: Major improvements or upgrades to the roof are not necessary, as it is fairly new and in good condition.	2
Interior (C: Interior)	Carpet replacement, painting, ceilings replacement and repairs: Walls and finishes are in fair to good condition.	3
Conveying Systems (C: Interior)	Elevator repairs and renewal: Car finishes are in poor condition. Elevator equipment and car interior should be upgraded to current codes and a second elevator provided to maintain accessibility in the event of shutdown of the existing elevator.	4
Mechanical Systems (B: Services)	Modernization, renewal, repair, and replacement of mechanical systems: plumbing and piping; and heating and ventilation. The domestic water main and system is galvanized pipe. The existing fixtures should be replaced with low flow fixtures including replacing all plumbing, sanitary sewer, and storm drain (rain leader, roof drains, etc) piping inside the building. The heating system has exceeded its expected service life and should be replaced. The ventilation system has exceeded its expected service life and should be replaced to provide better ventilation	4

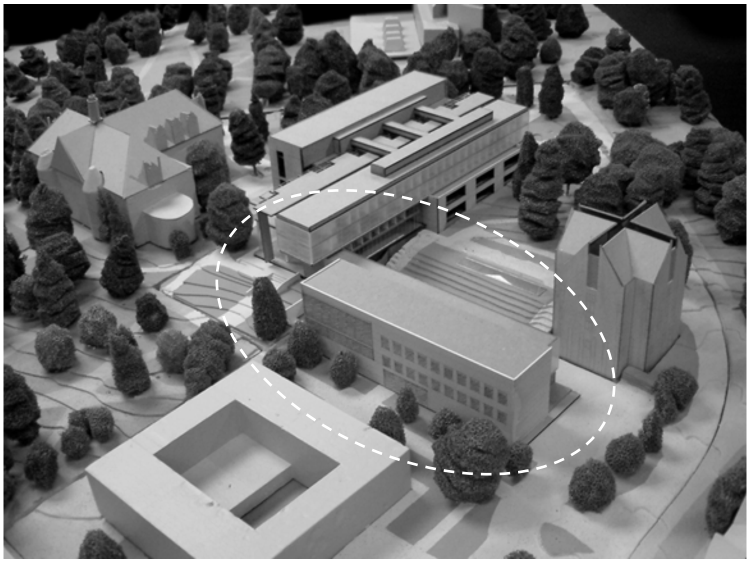
	and to improve air movement.	
Electrical Systems (B: Services)	Upgrade, renewal, repair, and replacement of electrical systems: main service; distribution system; and monitoring and control systems. The existing connection to the campus primary distribution system can be maintained and the existing main transformer may be reused, if the load stays below its rating. If there is a significant load increase a new service is required, then a new transformer and associated switchgear will be required to replace the transformer and switchgear. The branch circuit panel boards are mostly of indeterminate age with the majority of the branch circuit panels installed in 1954. This equipment is old and spares are not available and are unreliable to provide adequate, dependable power to the building thus, replace all branch circuit panel and distributions boards. Most conduit and wiring is over 40 years old thus all existing feeders and raceways should be replaced. There is no emergency power feed to the building however there is a tap ahead of main that feeds lighting, and other life safety loads. The existing configuration does not comply with current Life Safety Codes and should be upgraded. Existing emergency/egress lightings are fixtures retrofitted with various battery powered units of indeterminate age and quality/condition. These battery powered units should be removed and new emergency/egress lighting system and fixtures should be provided and connected to the new emergency power system mentioned above.	4
Utilities and Site work (G: Sitework)	Improvements, renewal, repair, and replacement of utilities and site work: footing and drains; and storm and sanitary side sewers: The existing clay sanitary and storm sewers should be replaced including the rain leaders with a new from the building to the existing manhole. Water infiltration through the foundation walls has resulted in damaged interior materials and room finishes, thus exterior footing drainage should be provided.	4
	Building Condition Total	4

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

BALMER HALL REPLACEMENT



AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Balmer Hall		REPLACEMENT	20081004
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20071004
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	July 2007	December 2007
Design	September 2008	March 2010
Bid	April 2010	May 2010
Construction/Occupancy	September 2010	Construction complete July 2012, occupancy September 2012

2. Problem Statement (short description of the project – the needs and the benefits)

Constructed in 1962 for the University of Washington Business School, aging but heavily-used Balmer Hall is now due for major renovation or replacement. The recommendation of the 2007 Predesign Study was to replace the building with a new, more efficient modern teaching building. The existing building's concrete structure needs to be strengthened to correct seismic deficiencies and most of its infrastructure, including mechanical, electrical, building enclosure, and communications systems, are at or beyond their useful life and need to be replaced. Because of its concrete structure, limited floor-to-floor heights, and relatively modest column spacing, the building is inflexible and cannot easily be remodeled to meet modern teaching needs in terms of accessibility, classroom size and configuration, sightlines, lighting, and acoustics. In addition to classes for the School of Business, the building is also used for University general-use classrooms as well as computer labs, study areas, and library collections, but it no longer satisfies many needs of those functions and is consequently reaching the end of its useful life.

3. History of the project or facility

Starting in 2001, the University and the School of Business began studying how their facilities could be improved to better support the growing and changing needs of the School. Those studies led to an expansion program and master plan proposing a significant new building, the proposed PACCAR Hall, which would provide a signature presence for the school as well as modern classroom and office facilities, followed by the replacement of Balmer Hall.

The University of Washington is requesting $42,800,000 in construction funding in the 2009-11 biennium to replace Balmer Hall. In the 2007-09 biennium the State Legislature appropriated, and the Board of Regents approved the expenditure of $4,000,000 in the UW Capital Budget to complete the predesign and design. The total project cost requested from the state for the replacement of Balmer Hall is $46,800,000 and includes predesign, design, and construction funding.

The School of Business has solicited private funding towards the $95 million cost of PACCAR Hall and has achieved its fundraising goal of a minimum of $80 million raised. These donated funds will be supplemented by bonds to be paid from program revenues that PACCAR Hall will make possible. The PACCAR Hall project is scheduled to be occupied in September of 2010, at which time the functions in Balmer Hall would surge into the new building and Balmer could be demolished to allow for construction of the replacement building. The Balmer Hall replacement option was shown to be the better value in the 2007 Predesign Report previously provided to OFM. When both structures are completed, current Balmer Hall functions will be distributed between the two buildings, resulting in a modern and comprehensive teaching and working environment for both the School of Business and the University at large. Together, the two buildings will increase classroom capacity 40 percent more than Balmer Hall to properly serve the University's and the School of Business' enrollment needs, with two-thirds of the total cost paid by private funds.

4. University programs addressed or encompassed by the project

The Michael G. Foster School of Business will be the primary occupant of Balmer Hall. The Business School is given priority scheduling access to the general assignment classrooms, but others also use them. In Autumn Quarter 2007, 37.7% of the classrooms were scheduled for general instruction outside of the School of Business, primarily in Arts and Sciences.

The replacement of Balmer Hall will allow the School of Business to vacate Lewis Hall. The Information School will then occupy Lewis Hall following its renovation. Space that the Information School vacates in Mary Gates Hall will be used to provide space for student services.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

Reconstructing Balmer Hall stays the course on the state's commitment to restoring the core of the University of Washington. Built in 1962, Balmer suffers from seismic safety issues in addition to inefficient and outdated floor plans for teaching, learning and research. Recent capital budgets that have passed the legislature have clearly prioritized restoring the core of the University.

- **"Restore the Core"**
- **Increases the number of bachelor's degrees awarded**
- **Increases the number of advanced degrees awarded**

Construction for Balmer Hall will increase the capacity of the Business School by 40 percent – this includes both undergraduate and graduate students.

- **Increases economic development**

Working closely with the business community, the UW School of Business is on the cutting edge of economic development strategies in the state, including less-known micro-enterprise and better-known executive management. Without business savvy entrepreneurs and leaders, economic development will become stagnant. Investing in an environment of innovation and inspiration will ensure that the University will continue to attract and retain the best faculty, teaching students who will be the future business leaders of Washington.

- **Promotes safety from violence for students, faculty and staff**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after-hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

- **Promotes partnerships**

It is because of the University's ties with the business community that it is able to massively expand the School of Business. Through careful planning and support, the School of Business will have a new donor-funded Business School building that will complement Balmer Hall's teaching and research activities.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html.
The building will address the following master plan goals:

- Respect Its Stature: The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.
  - The new Balmer Hall is designed to fully integrate itself with the new PACCAR Hall and complements the adjacent buildings and the historically important Denny Yard.
- Ensure Stewardship: The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character, history, architecture and open space. Changes to the campus should improve and enhance, rather than detract from, the value and quality of the campus. The Campus Master Plan identifies and encourages preservation of historic resources and open space.
  - Built over 45 years ago, the existing Balmer has served its useful life. Since it lacks the functional and aesthetic characteristics that would justify a renovation, Balmer will be replaced. Replacement will improve the overall quality of the campus and preserves open space relative to other options originally discussed.
- Provide Accessibility: The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.
  - Accessible routes will be created to offer people with disabilities entrances to and use of the building, or circulation around it.

- Promote Safety: The Campus Master Plan should help create a safe and healthy environment, with personal and workplace safety considerations integral to planning and design of circulation elements, buildings, and open spaces.
  - Site lighting, exterior circulation and landscaping will be designed to enhance occupant and visitor safety.
- Respect the Environment: The Campus Master Plan should value the environment and strive to promote the conservation of natural resources and goals of the Growth Management Act and Shoreline Management Act.
  - The replacement of Balmer Hall will also include the use of low-toxicity materials as well as sustainability harvested materials and renewable resources. Building systems, including electrical and plumbing systems, will be selected for their efficiency and mechanical systems will be minimized through the use of natural ventilation. The recycling and reuse of construction and demolition waste, to keep materials out of the waste stream, will be required of the contractor. The renovation will be designed to achieve at least Leadership in Environmental and Energy Design (LEED) Silver requirements
- Encourage Efficiency: The Campus Master Plan should encourage efficiency and economy in University operations, with advantageous locations for facilities and advantageous adjacencies of uses.
  - The design will utilize life cycle costing strategies to take into account the long term impact of design choices.
  - The new Balmer Hall is being designed in concert with the adjacent new PACCAR Hall. Opportunities for efficiencies in construction and operations are being carefully considered. For example, the building will share some mechanical room space, reducing the cost of each.
- Value the Community: The Campus Master Plan should recognize the importance of the surrounding communities and strive to achieve compatible working relationships with these communities to improve the quality of life and public benefits for all in the vicinity.
  - Together with the new PACCAR Hall, Balmer Hall will not only add 40% more classroom capacity than currently available in Balmer Hall, the complex will create a vital new gathering space for camps and wider community of particular value to the business community.

(b) Campus Facilities Plan

Balmer Hall was added to Phase III of the University of Washington's "Restore the Core" program in 2007-09. A brochure providing an overview of the "Restore the Core" program is included in the appendix. The predesign recommended that Balmer Hall be replaced as a more cost effective strategy for meeting the program needs of the Business School. Background information on the "Restore the Core" program can be found in June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.* The study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf. Balmer Hall is also a key element in the overall facilities plan for the Foster School of Business.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The

University of Washington's request for construction funding for a replacement for Balmer Hall is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - The new Balmer Hall and other new Foster School buildings will provide state of the art classrooms with configuration and the technology needed to support modern teaching methods and "student to student interaction."
  - The new facilities provide badly needed team development rooms in which teams of students learn to work as a unit in addressing an assigned issue. All of this supports the pursuit of excellence in education.
  - Bringing the building up to current Americans with Disabilities Act (ADA) code requirements will improve universal access to programs located in the building.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - Foster School consistently ranks among the top ten Business School in the country in terms of the quality and quantity of its research. The new facilities will help maintain and even improve this ranking.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
  - The graduates of the Foster School are the business leaders of tomorrow. Many stay in Washington State contribute their talents to expanding local economies.
  - New educational paradigms and programs supported by the building teach students how to compete in a global arena. A building that supports a business education that is part of an overall education in a major university offers unparalleled opportunities to acquire related skills like foreign languages and cross-cultural awareness. That combination gives graduates a competitive advantage in a global marketplace.
- Maintain and build resources, infrastructure, and facilities to ensure the highest level of integrity, compliance and stewardship.
  - The building will achieve LEED Silver requirements.
  - Life cycle costing has been used in the design process to make decisions that help insure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

Balmer Hall is the third priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and our first priority in the Replacement category.

7. Age of Building since Last Major Remodel:

a. Identify the number of years since the last substantial renovation of the facility. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

Balmer Hall was constructed in 1962 and had no substantial renovations in the 46 years since that time. Piecemeal minor modifications to classrooms and other building elements have been done, but the major building systems are essentially as they were originally constructed.

8. Condition of Building:

a. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2008 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. (Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)

The facility's condition score is 4, "Needs Improvement: Limited Functionality." A 2008 Comparable Framework summary and a more detailed Consolidated Building Audit performed by the University of Washington's Campus Engineering group in 2008 is provided in the appendix. Additional information is noted in the December 27, 2007 Predesign Report available upon request.

Major building systems and their conditions are summarized as follows: **Façade**: Attachment of existing precast concrete cladding should be verified. Little insulation value is provided by either the panels or the building window system, and the entire façade should be replaced with a unified, energy-efficient system to stop the current problems with leaking and condensation. **Vertical Circulation:** The existing single elevator is beyond its useful life and should be replaced. The stairs do not meet current code requirements and should be replaced. **ADA Accessibility**: Toilet rooms are not accessible and cannot be easily renovated due to the concrete masonry construction of the interior walls and their use as part of vertical ventilation shafts. **Structural/Seismic:** The building has a number of deficiencies as noted in the response to item 9 below. Further, load capacity is inadequate for the building to have large, tiered seating classrooms. New rooftop mechanical equipment would likely require strengthening of the existing roof structure. **Plumbing**: All existing piping has reached the end of its useful life and should be replaced. **HVAC**: Existing fans, heating hot water converter, and circulation pumps (serving the radiators) have all reached the end of their useful life and should be replaced. **Site Utilities**: Steam header valves, sanitary sewer piping and storm drain piping should be replaced. **Electrical:** All electrical equipment, feeders, and lighting fixtures should be replaced.

b. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Balmer Hall, built in 1962, is not listed on the Washington Heritage Register and is over 40 years old.

9. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, or energy code requirements. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. (Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)

The existing building falls far short of meeting most modern building code standards, most particularly those of the current (2003) Seattle Building Code (SBC), the current Seattle Energy Code, and Americans with Disabilities Act (ADA).

In particular, the building's seismic performance is compromised, as follows:

- The original concrete shear walls lack adequate capacity to resist the specified seismic loading. The primary concern is a lack of adequate flexural (overturning) capacity due to the relatively light reinforcing in the 8- and 10-inch concrete walls.
- The concrete shear walls in the north-south direction are located at the stairwells. The large openings located adjacent to the walls limit the ability of the diaphragm to transfer lateral forces to the walls.
- The anchorage between the roof and floor framing to the precast concrete columns is a steel wide flange beam embedded in the perimeter beam and column. This connection could be drift sensitive, and some cracking and possible spalling of the concrete may occur at these locations during a seismic event.
- At the east and west elevations, the attachment of the vertical precast cladding to the structural frame could not be verified based on the available documents. The capacity of the cladding attachment to accommodate story drift is not known. This could result in localized damage to the precast panels at the location of the attachment. Excessive damage at the point of connection could result in loss of vertical support.
- The attachment of the existing pedestrian bridge to Balmer Hall could not be verified based on the available documents. The capacity of the existing connection to accommodate story drift is not known.

Balmer's primary areas of noncompliance with the ADA are that the toilet rooms and the building elevator are not accessible. The main entrances to the building are accessible, but some of the secondary entrances do not meet ADA requirements.

Balmer Hall's exterior enclosure predates energy code requirements and falls far short of meeting current or upcoming standards. Minimal insulation is provided in the exterior walls and roof, and the windows are single glazed.

There is a notable quantity of hazardous materials which have been surveyed and which make the selective renovation of the building difficult.

The proposed Balmer replacement project will result in a building which is fully compliant with all relevant codes and free of hazardous materials. The resulting building will provide effective, efficient, and safe space to the Foster School of Business and the University for decades to come. This project is currently in design. A building audit of current conditions is attached. Extensive documentation of the replacement building design is available upon request.

10. Reasonableness of Cost:

The first project is geographically located in our region, and on the University of Washington's campus. The projects listed represent a comparable analysis of the scope of work, based on office and classroom space. Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market. The project at Washington State was increased by 108.8% due a location rate of 95.8 (Spokane) to Seattle (104.2). The project at Stanford was adjusted by 90.5% to accommodate the Palo Alto (115.1 location factor) to Seattle (104.2). Page Hall (93.9) was increased by 111.0% for location adjustments. Kroon Hall was adjusted by 95.2% for a location factor of 109.4 for New Haven, CT. These location factors are based on RS Means Facilities Construction Cost Data 2006.

Comparable Facility Name	Location	Gross SF	Total Project Costs	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Balmer Hall	University of Washington, Seattle, WA	60,878	$46,800,000	$768.75	Jul 2012	0%	$768.75
Denny Hall	University of Washington, Seattle, WA	87,549	$56,915.000	$650.09	Jul 2011	5%	$682.60
Smith Center	Washington State University, Pullman, WA	102,050	$45,238,226	$443.29	Oct. 2001	56.6%	$694.20
Geddes Hall	University of Notre Dame South Bend, IN	64,825	$18,873,020	$291.14	Jul 2009	14.3%	$332.77
Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept, 2004	40.4%	$862.62
Kroon Hall	Yale University New Haven, CT	58,021	$41,498,940	$715.24	Dec 2008	17.7%	$841.84

The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Detailed coordination will be necessary to minimize disruption to adjacent buildings, particularly the Phase 1 PACCAR Hall project, and to plan and implement the utility and infrastructure connections between the two projects. Detailed coordination will be required to ensure continued operation of the directly attached Foster Library (portions of which are within the basement of the Balmer Hall structure), with contractor activities of the adjoining Phase I Business School construction and Denny Hall renovation projects, and with academic occupancy of adjoining Mackenzie Hall, the Bank of America Executive Education Center and other adjoining buildings and campus circulation routes.

Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions concerning the configuration of the construction staging area and methods of construction where the new building connects to the adjacent buildings. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

11. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

12. 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.

All spaces comply with FEPG standards and typically are lower. The one exception are three out of twelve classrooms exceed FEPG standards but the classrooms averaged together fall back within FEPG standards. These three classrooms need to be larger because they are tiered and require ADA ramps in them for wheelchairs to reach the upper level.

b. Identify the (a) assignable square feet in the proposed facility; (b) the gross square feet; and (c) the net building efficiency ("a" divided by "b").

(a) Assignable square feet (ASF) in the proposed facility:	34,840 ASF
(b) Gross square feet (GSF):	60,878 GSF
(c) Net building efficiency (ASF divided GSF):	57% efficiency

13. Adequacy of Space:

Describe whether and the extent to which the project is needed to meet modern pedagogical standards and/or to improve space configurations, and how it would accomplish that.

Modern management education is delivered using a very extensive active learning pedagogy involving case discussion. Real world economic enterprises and the issues they face are described in written cases, and then students discuss the application of management principles to the situation. Typically there is not a single best answer to the situations. Having students consider and present differing possible approaches enhances the learning of all students. Classrooms need to provide face to face interactions among students, and between students and the instructor. The U-shaped, tiered classrooms found in the new Balmer Hall Building design are precisely what are needed for this mode of instruction. In addition, students are formed into teams to address issues and present proposed solutions, and the team breakout rooms are essential for this activity. Both of these types of spaces, the U-shaped tiered classrooms, and the breakout rooms, are desperately needed for the Foster School to be a state-of-the-art teaching facility.

14. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	25,550	73%
Student Advising/Counseling Services	1,200	3%
Childcare	0	0%
Faculty offices	4,070	12%
Administrative	4,020	12%
Maintenance/Central Stores/Student Center	0	0%
Total	34,840	100%

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20081004**
Project Title: **Balmer Hall Reconstruction**

Description

Starting Fiscal Year: 2008
Project Class: Preservation
Agency Priority: 5

Project Summary

This is a re-appropriation request and a request for 2009-2011 state funding of $42,800,000 for the construction of Balmer Hall. The University of Washington is requesting re-appropriation of remaining design funds to prepare for the major building replacement of Balmer Hall in 2009-2011. The current facility is in extreme disrepair, and is experiencing seismic and building code deficiencies. Additionally, Balmer Hall's mechanical, electrical and communications systems are outdated and inadequate Classroom sizes, sightlines, lighting and acoustics are limited by the building's configuration, columns, and concrete block construction. The facility does not meet current accessibility standards and because of its rigid construction, does not readily lend itself to remodeling. Balmer Hall, a 78,677 gross square foot facility constructed in 1962 for the Business School, is currently a major instructional building that houses undergraduate and graduate classrooms, and other Business School program spaces including computer labs, study areas, and library collections.

Project Description

This is a re-appropriation request and a request for 2009-11 state funding of $42,800,000 for the construction of Balmer Hall. The replacement facility will provide about 79,000 gross square feet for the Business School. This facility will house undergraduate and graduate classrooms, and other Business School program spaces including computer labs, study areas, and library collections. The project provides a floor plan to accommodate current programming, instructional and accessibility needs. The current Balmer Hall has been evaluated for structural, programmatic, seismic, building and infrastructure issues. The replacement facility will meet current building, seismic, ADA compliance and instructional needs. The total estimated project budget is $46,800,000.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

N/A

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	45,976,912		176,912	3,000,000	42,800,000
	Total	**45,976,912**	**0**	**176,912**	**3,000,000**	**42,800,000**

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

Schedule and Statistics

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20081004
Project Title: Balmer Hall Reconstruction

Schedule and Statistics

	Start Date	End Date
Predesign	08/01/2006	12/01/2007
Design	4/1/2008	7/1/2010
Construction	10/1/2010	9/1/2012

	Total
Gross Square Feet:	60,878
Usable Square Feet:	33,940
Efficiency:	55.8%
Escalated MACC Cost per Sq. Ft.:	435
Construction Type:	Other Schedule A Projects
Is this a remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.99%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		260,000	0.6%
Construction Documents		1,347,695	2.9%
Extra Services		1,375,851	2.9%
Other Services		1,002,337	2.1%
Design Services Contingency		480,246	1.0%
Consultant Services Total		**4,466,129**	**9.5%**
Maximum Allowable Construction Cost(MACC)	**26,489,938**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		26,489,938	56.6%
GCCM Risk Contingency		614,240	1.3%
GCCM or Design Build Costs		4,231,527	9.0%
Construction Contingencies		3,973,491	8.5%
Non Taxable Items		0	0.0%
Sales Tax		3,177,827	6.8%
Construction Contracts Total		**38,487,023**	**82.2%**
Equipment			
Equipment		1,060,960	2.3%
Non Taxable Items		0	0.0%
Sales Tax		95,486	0.2%
Equipment Total		**1,156,446**	**2.5%**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20081004
Project Title: Balmer Hall Reconstruction

Cost Summary

	Escalated Cost	% of Project
Art Work Total	132,450	0.3%
Other Costs Total	645,389	1.4%
Project Management Total	1,912,563	4.1%
Grand Total Escalated Costs	46,800,000	
Rounded Grand Total Escalated Costs	46,800,000	

Operating Impacts

No Operating Impact

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

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Cost Estimate Number:	25	**Report Number:**	CBS003
Cost Estimate Title:	Balmer Hall Renovation -- copy	**Date Run:**	8/13/2008 8:36AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20081004		
Project Title:	Balmer Hall Reconstruction		
Project Phase Title:			

Contact Info **Contact Name:** Brian Berard **Contact Number:** 206.897.1476

Statistics

Gross Sq. Ft.:	60,878
Usable Sq. Ft.:	33,940
Space Efficiency:	56%
MACC Cost per Sq. Ft.:	390
Escalated MACC Cost per Sq. Ft.:	435
Remodel?	No
Construction Type:	Other Schedule A Projects
A/E Fee Class:	A
A/E Fee Percentage:	7.99%

Schedule

	Start Date	End Date
Predesign:	08-2006	12-2007
Design:	04-2008	07-2010
Construction:	10-2010	09-2012
Duration of Construction (Months):	23	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		260,000	
Construction Documents		1,347,695	
Extra Services		1,375,851	
Other Services		1,002,337	
Design Services Contingency		480,246	
Consultant Services Total			**4,466,129**
Site work		0	
Related Project Costs		0	
Facility Construction		26,489,938	
Construction Contingencies		3,973,491	
Non Taxable Items		0	
Sales Tax		3,177,827	
Construction Contracts Total			**38,487,023**
Maximum Allowable Construction Cost(MACC)	**26,489,938**		
Equipment		1,060,960	
Non Taxable Items		0	
Sales Tax		95,486	
Equipment Total			**1,156,446**
Art Work Total			**132,450**
Other Costs Total			**645,389**
Project Management Total			**1,912,563**
Grand Total Escalated Costs			**46,800,000**
Rounded Grand Total Escalated Costs			**46,800,000**

Additional Details

Alternative Public Works Project: Yes

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	25	**Report Number:**	CBS003
Cost Estimate Title:	Balmer Hall Renovation -- copy	**Date Run:**	8/13/2008 8:36AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20081004		
Project Title:	Balmer Hall Reconstruction		
Project Phase Title:			

Contact Info **Contact Name:** Brian Berard **Contact Number:** 206.897.1476

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number: 25
Analysis Date: July 22, 2008
Cost Estimate Title: Balmer Hall Renovation -- copy

Detail Title: Balmer Hall 09-11
Project Number: 20081004
Project Title: Balmer Hall Reconstruction
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Brian Berard **Contact Number:** 206.897.1476

Statistics

Gross Sq. Ft.:	60,878
Usable Sq. Ft.:	33,940
Rentable Sq. Ft.:	
Space Efficiency:	56%
Escalated MACC Cost per Sq. Ft.:	435
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule A Projects
Remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.99%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule	Start Date	End Date
Predesign:	08-2006	12-2007
Design:	04-2008	07-2010
Construction:	10-2010	09-2012
Duration of Construction (Months):	23	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 23,719,500
MACC (Escalated):	$ 26,489,938
Current Project Total:	$ 42,369,849
Rounded Current Project Total:	$ 42,370,000
Escalated Project Total:	$ 46,800,000
Rounded Escalated Project Total:	$ 46,800,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	260,000			
SubTotal: Pre-Schematic Design Services		**260,000**	1.0000	**260,000**
Construction Documents				
A/E Basic Design Services	1,307,680			
SubTotal: Construction Documents		**1,307,680**	1.0306	**1,347,695**
Extra Services				
Civil Design (Above Basic Services)	45,000			
Geotechnical Investigation	30,000			
Commissioning (Systems Check)	80,000			
Site Survey	15,000			
Testing	150,000			
Leadership Energy & Environment Design List(LEED)	100,000			
Voice/Data Consultant	40,000			
Value Engineering Participation & Implementation	25,000			
Constructability Review Participation	40,000			
Environmental Mitigation Services (EIS)	10,000			
Landscape Consultant	75,000			
Acoustical Consultant	25,000			
Haz Mat Consultant	60,000			
Elevator Consultant	10,000			
Communications Consultant	50,000			
Graphics	25,000			
Interior Design	85,000			
Specialty Consultants	350,000			
Phasing/Early Bid Packages	30,000			
Quality Control Consultant	40,000			
Electronic AudioVisual	50,000			
SubTotal: Extra Services		**1,335,000**	1.0306	**1,375,851**
Other Services				
Bid/Construction/Closeout	587,508			
HVAC Balancing	70,000			
Constuction Support	240,000			
SubTotal: Other Services		**897,508**	1.1168	**1,002,337**
Design Services Contingency				
Design Services Contingency	380,019			
Change Order Design Allowance	50,001			
SubTotal: Design Services Contingency		**430,020**	1.1168	**480,246**
Total: Consultant Services		**4,230,208**	1.0558	**4,466,129**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	22,400,000			
Additional Escalation	1,319,500			
SubTotal: Facility Construction		**23,719,500**	1.1168	**26,489,938**
Maximum Allowable Construction Cost (MACC)		**23,719,500**	1.1200	**26,489,938**
GCCM Risk Contingency				
GCCM Risk Contingency	550,000			
SubTotal: GCCM Risk Contingency		**550,000**	1.1168	**614,240**
GCCM or Design Build Costs				
GCCM Fee	1,283,975			
Bid General Conditions	1,340,000			
GCCM Preconstruction Services	295,000			

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
Construction Support Services	870,000			
SubTotal: GCCM or Design Build Costs		3,788,975	1.1168	4,231,527
Construction Contingencies				
Management Reserve	1,185,975			
Allowance for Change Orders	2,371,950			
SubTotal: Construction Contingencies		3,557,925	1.1168	3,973,491
Sales Tax		2,845,477	1.1168	3,177,827
Total: Construction Contracts		34,461,877	1.1168	38,487,023
EQUIPMENT				
E10 - Equipment	400,000			
E20 - Furnishings	550,000			
SubTotal:		950,000	1.1168	1,060,960
Sales Tax		85,500	1.1168	95,486
Total: Equipment		1,035,500	1.1168	1,156,446
ART WORK				
Total: Art Work		132,450	1.0000	132,450
OTHER COSTS				
Mitigation Costs	200,000			
Permit, Insurance, Connectivity	397,251			
Total: Other Costs		597,251	1.0806	645,389
PROJECT MANAGEMENT				
Agency Project Management	1,872,563			
Preactive PM Fees	40,000			
Total: Project Management		1,912,563	1.0000	1,912,563

360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

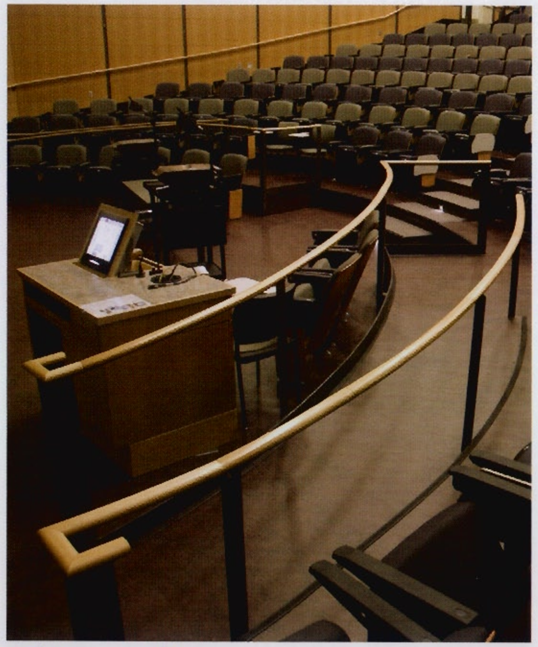
*

Cost Estimate Number: 25
Cost Estimate Title: Balmer Hall Renovation -- copy

Report Number: CBS003
Date Run: 8/13/2008 8:36AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20081004	20081004
Cost Estimate Number	25	25
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

The Results



Architecture Hall

Guggenheim Hall

The Next Phase

DENNY HALL opened in 1895 and is the oldest building on campus. It was named for Arthur Denny, the pioneer who donated the majority of the University's original 10-acre downtown tract. Denny Hall is home to the Departments of Anthropology, Classics, Germanics, and Near East Studies.

Denny Hall, then and now

LEWIS HALL is among the oldest buildings on campus, and was built as a dormitory for men in 1899. Named after the famous Pacific Northwest explorer Meriwether Lewis, Lewis Hall is the future home of the Information School.

Lewis Hall, then and now

BALMER HALL will be completely rebuilt as a component of the University's new Business School Complex.

The Benefits

REFURBISHED BUILDINGS WILL:

- Meet current seismic and safety requirements
- Provide modern technology to students, faculty and staff
- Conserve resources through sustainable design and LEED® Silver certification

RESTORE THE CORE'S efficient schedule allows projects to be completed in a four-year span, rather than six. This accelerated schedule has saved $18 million in state funds to date.

- Architecture Hall: $4.7 million saved
- Guggenheim Hall: $6.1 million saved
- Johnson Hall: $7.2 million saved

GENERATIONS of Washington citizens have helped create the campus facilities that support a world-class education at the University of Washington. The Restore the Core program will ensure these benefits for future generations.

W®

Consultants: Ira Fink and Associates, Inc.
Otak, Inc.

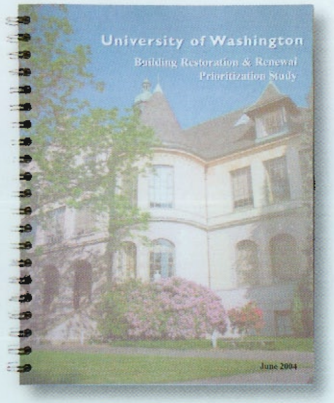
RESTORING THE CORE

The University of Washington's major program of building restoration is at the halfway mark

The Plan

THE UNIVERSITY'S *Building Restoration & Renewal Prioritization Study* of 2004 established a plan to renew and renovate fifteen significant buildings on the Seattle Campus.

The deteriorating condition of these buildings—providing more than 900,000 gross square feet, and housing more than 40 academic programs—was threatening our ability to deliver core campus functions in teaching, research, and public service.



University of Washington
Building Restoration & Renewal Prioritization Study
June 2004

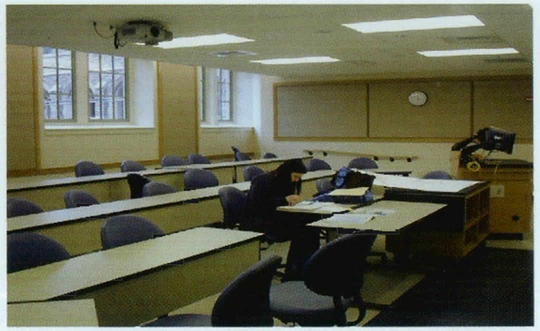
In recognition of the need to protect and renew the priceless resource that our academic buildings represent, the University has focused its attention on restoring our core campus facilities so that they may be used and enjoyed by future generations.

Restoration Schedule

PHASING SCHEDULE	Phase I 2003–2005	Phase II 2005–2007	Phase III 2007–2009	Phase IV 2009–2011	Phase V 2011–2013	Phase VI 2013–2015
PLANNING/ DESIGN	Architecture Hall Guggenheim Hall	Savery Hall Clark Hall Playhouse Theater MHSC H-Wing	**Denny Hall** **Lewis Hall** **Balmer Hall**	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall	—
CONSTRUCTION	Johnson Hall	Architecture Hall Guggenheim Hall	MHSC H-Wing Savery Hall Clark Hall Playhouse Theater	Denny Hall Lewis Hall Balmer Hall	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall

The Progress

Construction funding for the renovation of Johnson Hall was approved by the state in the 2003-2005 capital budget.



Renovation of Johnson Hall was completed in 2005.

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

Consolidated Building Audit for:

Balmer Hall

By: Campus Engineering

General

This audit reflects the status of existing building system components and infrastructure of **Balmer Hall** and any known maintenance and/or operational issues related to those systems. Included are preliminary recommendations for addressing the issues related to these systems.

This audit is the result of "brief" site investigations performed for this building. Please note that our audit does not replace the need of a detailed investigation/evaluation. Existing conditions and known problems are pointed out now for awareness and so that they are addressed early.

Description:

Following the completion of Mackenzie Hall in 1961 (Business Administration Unit I) **Balmer Hall** was finished in 1962 and called Business Administration Unit II. **Balmer Hall** is a cast-in-place concrete frame building with precast concrete vertical cladding between steel sash stacked windows.

BUILDING CONDITIONS: ARCHITECTURE

The following are the results of an audit of the condition of the architectural elements of **Balmer Hall**. The ratings noted are based on an evaluation of the years of usable service left in a component. A poor rating means replacement to approximately 5 years of service remaining; a fair rating means 5 to 15 years of service remaining; and a good rating means 15 years to 25 years of service remaining.

Site

Balmer Hall is situated between the Foster Library and Bank of America Executive Education Center to the north and Mackenzie Hall to the south, with a small vehicle service yard along Stevens Way to the east. The only open space is located at the west end of the building which will soon be occupied by a new Business School addition.

Klickitat Lane, which separates Balmer Hall from Mackenzie Hall, is a major pedestrian way for students coming from the dorms as they cross campus to the west.

Background/Problems:

The service yard is too small for the number and type of service vehicles (e.g. catering trucks) it is expected to handle. There is only one access drive so vehicles must enter and exit by a single point maneuvering a "Y" turn within the yard to turn around. This is difficult because of the narrow dimension of the yard and because pedestrians use the yard as a route of travel to and from Stevens Way.

Recommendations:

Consider ways to enlarge the service yard while restricting pedestrian access through it. Consider creating an entry drive and an exit drive separate from each other.

Waterproofing – Vertical and Horizontal

Background/Problems:

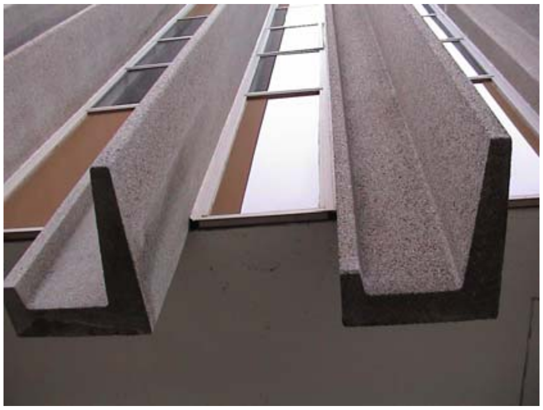
The plaza that separates Balmer Hall from the Foster Library is actually part of the roof over Foster Library. The waterproofing detail used around existing Balmer Hall exterior columns was poorly executed, and will likely need repairs.

Recommendations:

At the time plaza renovations are made, design and construct a membrane flashing system that improves existing conditions.

Exterior Facade

Background/Problems:



Precast concrete vertical cladding panels appear to be in good condition. They are hung from each floor slab-edge by continuous welds, full width of each panel. Of the attachments that can be seen (at east stair tower) there is no sign of failure. Panels show no sign of rusting reinforcing or cracking concrete. The east wall of the first floor exterior is clad with ceramic tile applied directly to the concrete structural wall.

Recommendations:

Depending on other cladding work, these precast concrete panels can remain, however they add little to the insulation value of the building. If an energy upgrade is considered, these panels should be removed and replaced by a new curtain wall of appropriate design. Ceramic tile at east wall is in good condition and can remain. Mineral deposits from the precast concrete above should be removed and the tile grout sealed.

Roof

Background/Problems:

The roof on Balmer Hall is an original IRMA roof, and is in good condition. During the building expansion in mid-1990s there was considerable work on the roof around new mechanical equipment.

Recommendations:

If building renewal program includes all new mechanical equipment, then this will be a good time to re-roof the entire building. If the renewal project does not include all new mechanical equipment on the roof, then only selective patching in areas of new work is required.

Windows

Background/Problems:

Windows are single glazed set in steel sash. Operating sash are either casements or awnings. Glass is set with removable steel stops and frames are painted. Steel sash is set in sealant at precast panels and is leaking. Interior condensation is also a problem. Steel sash is beginning to rust. Further, frames have no energy conserving features i.e., thermal breaks. Main floor windows are full-height, floor to soffit single pane glass supported with vertical steel tube and recesses glazing pockets. Entrances are hollow metal frames with aluminum storefront doors.

Recommendations:

Remove all existing windows and entrances and replace with thermally efficient aluminum frames and insulating glass. Consider replacing precast concrete panels at this time so the cladding system can be fully compatible with itself.

Entries and Exterior Doors

Background/Problems:

The front (main) entrance is integrated into a single glazed, aluminum storefront. The original doors were replaced in the late 1990s. There is an automatic door operator. Other entrances (exits) at the north and south ends of the building are aluminum doors hung in hollow metal frames. These existing systems are very energy inefficient.

Recommendations:

Remove existing entrance doors and associated frames and glazing and replace with new energy efficient systems.

Interior Conditions

Background/Problems:
Existing floors are either vinyl composition tile of exposed concrete. Walls are either concrete or concrete masonry units, set in stack bond configuration and painted. Ceilings are either exposed concrete, painted or concealed spline acoustical ceiling tile.

Recommendations:
Alteration of existing space is very difficult. Consider full interior demolition and rebuild with modern building materials.

Background/Problems:
Existing interior classroom doors are non-rated solid core wood hung in hollow metal frames. Stairway doors are fire rated hollow metal assemblies.

Recommendations:
Upgrade interior doors to current life/safety requirements.

Background/Problems:
Existing cast-in-place concrete stairs are wider than necessary for code required exits. Handrails do not meet current code as guardrails, or for gripping shape for persons with disabilities.

Recommendations:
Remove existing stairs and build new to current codes.

Vertical Transportation

Background/Problems:
There is a single, small elevator that is original to the building. This elevator is on the list of those needing replacement because it is beyond its service life.

Recommendation:
Remove and install a new elevator.

ADA Accessibility

Background/Problems:
Balmer Hall, like most buildings of its day, is not fully accessible to persons with disabilities. Of primary concern are the toilet rooms which have doors and entrance configurations that are impossible for many people to enter. Renovation of the toilet rooms is not easy since the walls are of concrete or masonry construction, and they form parts of ventilation shafts.

Recommendations:
Completely demolish existing toilet rooms and construct new according to current code.

BUILDING CONDITIONS: STRUCTURAL

Description:

Balmer consists of a 55’x34’ penthouse, 216’x72’ first, second, third & fourth floor, a full basement and partial sub-basement of 64’x57’. A Steam Manhole is attached to Balmer by a tunnel. The sub-basement is 11’-9” high, the basement is 12’-6” high, the first floor is 15’-0’ high, second, third and fourth floor are 11’-6” high each and the penthouse is 16’-0” high.

The below grade floors consist of reinforced concrete exterior walls and some interior concrete walls and interior concrete columns, and concrete pan joists. The upper four floors consist of reinforced concrete walls at the exterior end of the building and around the stairs and elevator wells and concrete columns on the inside and as well as outside. And pan joists and concrete girders on the floors. The penthouse consists of reinforced concrete walls, knock-out panels and columns as vertical supporting members and concrete pan joist as roof support. CMU walls are used on the interior as partitions. The exterior is veneered with precast concrete panels. Balmer should be classified as C2 – Concrete Shear Walls with Stiff Diaphragms – by ASCE 31-03.

There are three stairways, one at each end of Balmer and one at the mid-section of building along with elevator well and duct & Air shaft.

Background/Problems:
Building was designed and constructed prior to the adoption of modern seismic codes.

Recommendations:
Evaluate seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a “Life Safety” performance level (as defined by ASCE 31).

Background/Problems:
The reinforced concrete roof cantilevers out 9’-0” at the south entrance. The slab is supported on a 8”x18” concrete beam at building line and tie to the interior stairway landing. The precast concrete panels on the exterior are welded to the 8”x18” beam. It appears the cantilever slab may have deflected and rotated excessively and causing the precast panel connection to be pulled away from its supporting beam.

Recommendations:
The precast concrete panel to concrete beam connection should be checked and reconnected.

Background/Problems:
CMU walls are used to partition on the second, third and fourth floors. The walls are providing rigidity to the three upper floors, the ground floor is very much open with rows of column.

Recommendations:
The ground level is a weak story. The horizontal ties in columns are 16” oc. The lateral load resisting system at first floor needs to be reviewed for earthquake load.

Background/Problems:
Wall and slab joint between tunnel and southeast corner of subbasement, there is crack and water seepage.

Recommendations:
Remove loose concrete, install waterstop strip.

Background/Problems:
The 10” thick subbasement wall is lightly reinforced. Horizontal and vertical long cracks appear about 10’ oc.

Recommendations:
There are fine cracks at this time, should the cracks be widened to over1/16, epoxy grout should be applied to seal the cracks.

Background/Problems:
The concrete pan joist and slab is lightly reinforced. The underside of floor has been painted over and top of floor is covered with tiles, which makes it difficult to inspect the floor slab. The places which remain unobstructed show cracks on the slab surface and pan joists.

Recommendations:
The classrooms are designed for a 40 psf live load. Should the functioning be altered, the floor should be reviewed for its load capacity.

Background/Problems:
The penthouse wall is reinforced concrete on north, east & south, and CMU on the west side. Some “stair step” cracks were observed in the CMU wall, this may be due to a prior earthquake.

Recommendations:
Verify amount of steel in masonry wall – not shown on drawing, strengthen wall as required.

BUILDING CONDITIONS: MECHANICAL

Plumbing System

Background/Problems:
Domestic water enters through the north end of the building and is metered. The domestic hot water is provided by a double wall steam to water heat exchanger located in the basement mechanical room. The domestic hot water, domestic cold water, sanitary waste and vent piping has reached the end of its useful life. There are some pieces of equipment from the original building construction that appears to be abandoned in place.

Recommendations:
Install a permanent water meter and connect it to the DDC system for remote monitoring. Replace all the interior domestic hot water, domestic cold water, sanitary waste and vent piping. Remove the abandoned equipment in the basement mechanical room.

Heating, Ventilating and Air Conditioning System

Background/Problems:
The building is served by a single air handling unit with 11 zones and a return fan. Space was provided in the air handling to add a future cooling coil. There is sound lining installed downstream of the fan and in the return air system. There is an exhaust fan for the toilet rooms and copy room.

Recommendations:
The existing fans have reached the end of their useful life and should be replaced. The sound lining should be inspected and removed if it is in poor shape. Alternative noise control measures should be provided if the sound lining is removed.

Background/Problems:
The heating hot water converter and circulation pumps are located in the basement mechanical room. The heating hot water converter and circulation pumps have reached the end of their useful life. Hot water radiators are located along the perimeter of the building.

Recommendations:
The heating hot water converter, pumps and piping should be replaced. The radiators should be inspected to determine if they are still satisfactory for reuse. Upgrade the controls for the radiator heaters.

Background/Problems:
This building does not have any mechanical cooling but the chillers on the roof serve a telecom/electrical room in the basement. There are also a couple more DX air conditioning units in the building serving spot cooling loads.

Recommendations:
Provide cooling for the entire building.

Fire Protectionn System

Background/Problems
Fire sprinklers were added to the building in 1988.

Recommendation:
No action required.

Background/Problems:
The building is mainly pneumatically controlled with some DDC functions on the supply fan.

Recommendations:
Upgrade the remaining building systems to DDC controls.

Fire Protectionn System

Background/Problems
Building has a 6” diameter dedicated fire protection service from water main.

Recommendation:
None

BUILDING CONDITIONS: CIVIL

Utility Distribution System

Background:
Balmer Hall is served by the central utility system through a connection from utility tunnel manhole UC-8. The steam, condensate, and control air from this building also serves the Seafirst Executive Educational Center. Any shutdown required for modifications to these utilities will affect both Balmer Hall and the Seafirst Executive Center.

Recommendations:
The valves on the steam header are old and should be replaced. A condensate meter should be added to the system and monitored remotely through the DDC system. The control air header should be replaced with a new header.

Background:
The storm drainage piping is old, mostly clay, and will eventually become a maintenance problem if not replaced. The brittle pipe tends to develop cracks over time. Roots and dirt will eventually clog the pipe causing backups.

Recommendations:
Replace underground storm drain piping, including rain leaders, from building to nearest manhole.

Background:
Building underground sanitary sewer piping is old, mostly clay, and will eventually become a maintenance problem if not replaced. The brittle pipe tends to crack over time, and then roots and dirt clog the pipe causing backups and flooding in the building.

Recommendations:
Replace underground sanitary sewer piping from building to nearest manhole.

Background:
Sewer Main serving building is not a dedicated sanitary sewer, but is a combination sewer. To prevent backups into homes and businesses, flooding, and bursting underground pipes, the City sewer system is designed to overflow into receiving waters like Lake Union, Lake Washington, and Puget Sound. The identification and elimination of combined sewers at the University of Washington will help the City of Seattle reduce the number of combined sewer overflow events.

Recommendations:
To eliminate the combination sewer serving the building, a new storm drain is needed from nearest storm drain manhole at building to nearest existing dedicated storm drain (a separate project is needed to provide a dedicated storm drain to the area near building). Storm drains serving the building will then need to be reconnected to the new storm drain piping.

Background:
Building does not appear to have moisture problems in lower floors (No maintenance issues reported).

Recommendations:
None

BUILDING CONDITIONS: ELECTRICAL

Background:
The electrical systems in Balmer Hall are all original equipment that were installed when the building was constructed. The fluorescent lighting system was retrofitted with energy efficient T8 lamps in the early 1990s.

Primary Power (Normal) Connection

Background/Problems:
Balmer Hall is fed at 13.8kV from feeders EB3 and EC3. These two feeders are connected to a link-box in manhole UC8 and are over 35 years old. There are two primary S&C fused switches. The voltage is dropped through a 750KVA 13.8kV/480V transformer. The main switchgear is GE with a 1600 amp main. All service entrance equipment is dated from the 1960s.

Recommendation: All main electrical equipment, including the main feeders back to the link-box in manhole UC8 should be replaced in a major renovation due to age. This may or may not require that the link-box also be replaced. The service entrance should be upgraded to a "primary select" configuration for ease of maintenance and operations.

There is a possibility that this building can be sub fed from SeaFirst ECC.

Emergency Power

Background/Problems:
Emergency power is fed to Balmer Hall at 480V from SeaFirst ECC. There is a Russel Electric ATS that feeds the emergency panel "XYZ".

Recommendations:
Confirm that the operation of existing emergency feed meets all codes and standards and replace/upgrade as required.

Metering

Background/Problems:
There are none.

Recommendations:
Install a metering system.

Distribution System

Background/Problems:
Building distribution is 480/277 volts and 208/120 volts. Most lighting is 480 volts. Panelboards are GE dating to the origination of the building (1962). Mackenzie Hall and the nearby tennis courts are also fed from Balmer Hall.

Recommendations:
All distribution equipment should be replaced in a major renovation given their age of over 40 years.

Lighting Systems

Background/Problems:
Balmer Hall lighting is mostly 2x4' T8 fluorescents fed at 277V. The basement lighting is mostly 120V.

Recommendations:
Due to much more stringent energy code requirements lighting will most likely have to be replaced and redesigned in a major renovation.

Fire Alarm Systems

Background/Problems:
The fire alarm system is Simplex of modern kind.

Recommendations:
No recommendation at this time.

Prepared by:
Architectural: Tom Berg
Structural: Ke. C. Chen
Civil: Ali Ferdos
Mechanical:
Electrical:

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2008 Comparable Framework
Building Renewal, Repair, and Facility Improvements Summary
Balmer Hall

Category (Uniformat)	Description	Condition Score
Superstructure (A: Substructure)	Structural and seismic repairs: The building was designed and constructed prior to the adoption of modern seismic codes; concrete masonry units walls are used to partition on the second, third and fourth floors. The walls are providing rigidity to the three upper floors, with the ground floor very much open with rows of column. The ground level is a weak storey. The lateral load resisting system at first floor needs to be reviewed for earthquake load.	4
Exterior (B: Shell)	Exterior repairs and renewal: Precast concrete vertical cladding panels appear to be in good condition; The panels show no sign of rusting reinforcing or cracking concrete, however they add little to the insulation value of the building; The windows are single glazed set in steel sash and are leaking and beginning to rust, with interior condensation also a problem. Thus, windows should be replaced with thermally efficient aluminum frames and insulating glass.	3
Roof & Envelope (B: Shell)	Repair and replace roofing and envelope: The roof is original, and is in good condition.	3
Interior (C: Interior)	Carpet replacement, painting, ceilings replacement and repairs: The floors are either vinyl composition tile or exposed concrete. Walls are either concrete or concrete masonry units, set in stack bond configuration and painted. Ceilings are either exposed concrete, painted, or acoustical ceiling tile.	3
Conveying Systems (C: Interior)	Elevator repairs and renewal: A small single elevator is original to the building and is need of replacement as it is beyond its service life.	4
Mechanical Systems (B: Services)	Modernization, renewal, repair, and replacement of mechanical systems: plumbing and piping; and heating and ventilation. The domestic hot water, domestic cold water, sanitary waste and vent piping; the ventilation fans; and the heating hot water converter and circulation pumps and valve on the steam header have reached the end of their useful life and should be replaced. The control	4

	system should also be replaced with new direct digital control system.	
Electrical Systems (B: Services)	Upgrade, renewal, repair, and replacement of electrical systems: main service; distribution system; and monitoring and control systems. The electrical systems are all original equipment that was installed when the building was constructed. All main electrical equipment, including the main feeders back to the link-box should be replaced due to age. The service entrance should be upgraded to a “primary select” configuration for ease of maintenance and operations and all distribution equipment should be replaced given their age of over 40 years.	4
Utilities and Site work (G: Sitework)	Improvements, renewal, repair, and replacement of utilities and site work: footing and drains; and storm and sanitary side sewers: The sanitary and storm drainage piping is old, mostly clay. The brittle pipe tends to develop cracks over time where roots and dirt that can clog the pipe causing backups. Additionally, the sewer main serving building is not a dedicated sanitary sewer, but is a combination sewer. Thus, the sewer piping from building to nearest manhole should be replaced.	4
	Building Condition Total	4

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

LEWIS HALL RENOVATION

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Lewis Hall		RENOVATION	20081003
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20081003
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	7/2/2007	12/31/2007
Design	4/15/2008	8/1/2009
Bid	9/1/2009	11/2/2009
Construction/Occupancy	11/3/2009	2/28/2011

2. Problem Statement (short description of the project – the needs and the benefits)

Lewis Hall was constructed in 1900 as a dormitory and is one of the oldest buildings on the Seattle campus. It is a part of the University's "Restore the Core" program of major building renovations. In recent years, it has housed office space primarily for the Michael G. Foster School of Business. With a newly constructed and donor funded School of Business facility to be completed in 2010, Lewis Hall is being reassigned to enable the University to achieve important academic goals. This project proposal will renovate Lewis Hall and to construct a building addition to allow for the building to be occupied by the University's Information School (iSchool). The current occupants will temporarily move to Condon Hall and will then be relocated to the new Business School. The iSchool assignment to Lewis Hall will allow for the iSchool's Mary Gates Hall space to be used to consolidate key student services currently located in several other campus buildings. By relocating the iSchool, the program will be able to physically express its identity as a separate school as well as move into a space that has been specifically designed for a program that is for a highly collaborative culture that fosters collegiality, inclusiveness, creativity, and innovation.

This project will renew one of the original campus buildings and ensure the preservation of this historic building listed on the Washington Heritage Register. The project updates all major building systems utilizing sustainability goals to achieve a Leadership in Energy and Environmental Design (LEED) Silver certification or higher and addresses important seismic, and life safety and code requirements including accessibility requirements. The renovation of Lewis Hall includes 11,700 assignable square feet (ASF)/23,220 gross square feet (GSF) of the total 17,500 ASF needed for the iSchool. An addition on the back of the building of 5,800 ASF (9,250 GSF) will accommodate the balance of the iSchool program needs.

3. History of the project or facility

In the University of Washington's 2007-2009 Capital Budget Request the University was allocated $2,000,000 in state funding for a predesign study and design funding for the complete renovation of Lewis Hall. Lewis Hall has been prioritized for construction funding in the 2009-2011 biennium as part of the University's ongoing "Restore the Core" renovation program to restore and modernize buildings in greatest need of renovation, as documented in the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study*. The study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf. A brochure providing an overview of the "Restore the Core" program is included in the appendix along with a list of building assessments made prior to the predesign. The Lewis Hall predesign is available upon request.

Building History:
Lewis Hall, one of the oldest remaining buildings on the University of Washington campus, was constructed in 1899 to serve as a dormitory for male students. It was built at the same time as Clark Hall, the original women's dormitory, shortly after the campus moved from its original downtown Seattle location, where it was founded in 1861, to its present site in 1895. Despite the responsibilities and difficulties inherent in providing living quarters for students, the dormitory facilities were seen as integral to the territorial University in order to attract men and women from all parts of Washington State.

In 1898, the University's Board of Regents determined that two dormitories, one for women and one for men, could be constructed at a cost of $28,000 each. Built of pressed brick, each building would house 56 students and would include a dining facility. If the University accepted an offer of donated bricks, the cost would be reduced to a total of $50,000 for both buildings with an additional $5,000 required for furnishings and equipment.

The two buildings were completed and occupied by January of 1900 and formally opened on Monday, February 12, 1900. Eventually, the men's dormitory was named for Meriwether Lewis and the women's dormitory for William Clark, leaders of the famed Lewis and Clark Expedition.

The two buildings remained dormitories until a new women's dormitory, now known as Hansee Hall, was completed in the summer of 1936. In April of 1938 the University announced a Works Progress Administration project to convert Lewis Hall into the new home of the School of Journalism. In the summer of 1939, the School of Journalism moved into the newly remodeled Lewis Hall, which also housed all the campus publications, including the *Daily*, *Columns*, and *Tyee*.

The School of Journalism remained in Lewis Hall until the summer of 1955 when it moved to the newly completed Communications Building, now known as Communications Hall. At the same time, some language departments, including Scandinavian Languages and Literature, moved from Denny Hall to Lewis Hall in anticipation of the proposed reconstruction of Denny Hall. Subsequently, Lewis Hall housed a variety of occupants, as its space became available. In the early 1970s, it served as offices for the Division of Adult Education, Correspondence Studies, and the Bureau of Community Development and Extension. More recently, it has housed offices for administration and doctoral students, primarily associated with the School of Business Administration.

4. University programs addressed or encompassed by the project

The Information School (iSchool) will occupy Lewis Hall following its renovation.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- **"Restore the Core"**

As one of the oldest buildings at the UW, Lewis Hall serves as a proud reminder of the on-going residential needs of our male and female students. Once a dormitory (originally all male and, later, all female), Lewis Hall will now meet the burgeoning demand for the Information School, a 90 year old interdisciplinary UW program that is gaining increasing interest in today's information-laden world. Ensuring that this University icon continues a useful purpose for the UW, stays the course of the state's "Restore the Core" efforts. Recent state capital budgets have indicated state support for this herculean effort.

- **Develop facilities, technology, distance learning (HECB)**

"Restore the Core" undergirds the state's long-standing investment in the University. The Quad and other historical buildings, including Lewis Hall, serve as essential signatures of our teaching and research prowess. And using this icon for the forward-looking Information School ensures that the state supports innovation in technology and related learning and research.

- **Promotes partnerships with K12 and other public and private institutions**

As the new home of the Information School, Lewis Hall is being designed with collaboration as a core value. Having its own building will also allow the iSchool to host such events as the iConference, an annual meeting of 21 information schools and other schools working in the information field, as well as events for professional associations. In addition, having its own building will allow the iSchool to raise its national and international profile, which will promote more corporate and academic partnerships.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be viewed at http://www.washington.edu/community/cmp_site/final_cmp.html.

Lewis Hall is located in the Seattle Campus central core where preservation and restoration are the primary concerns for the historic buildings. The Lewis Hall Renovation project promotes specific goals in the University's Campus Master Plan:

> The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.
>
> - The renovation of Miller Hall, a classic example of the campus gothic style designed by Bebe and Gould Architects, reinforces the history of the original campus.
>
> The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character,

history, architecture and open space. The Campus Master Plan identifies and encourages preservation of historic resources and open space

- The renovation of Miller Hall will bring the building into seismic compliance, will stabilize and restore the façade and ornamental details, and will upgrade the major building systems. Thus this project will ensure that Miller Hall will endure and serve the Campus for many decades to come.

The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.

- An accessible route will be created to offer people with disabilities entrances to and use of the building.

The Campus Master Plan should help create a safe and healthy environment, with personal and workplace considerations integral to planning and design of circulation elements, buildings and open space.

- The building renovation will include the abatement of hazardous materials, while the new construction will improve ventilation and use materials that are selected to minimize emissions. The seismic renovation of the building will strengthen the structure, and the exterior masonry and details will be anchored thus significantly increasing its life-safety performance in the event of an earthquake. Fire sprinklers, alarms and other safety features will also be included in the renovation.

The Campus Master Plan should value the environment and strive to promote the conservation of natural resources.

- The re-use of existing buildings is one of the most resource-efficient strategies available to an institution. The preservation of Miller Hall will also include the use of low-toxicity materials as well as sustainability harvested materials and renewable resources. Building systems, including electrical and plumbing systems, will be selected for their efficiency and mechanical systems will be minimized through the use of natural ventilation. The recycling and reuse of construction and demolition waste, to keep materials out of the waste stream, will be required of the contractor. The renovation will be designed to achieve at least LEED Silver requirements.
- The opportunity to use new landscaping that will allow for more daylighting opportunities into the ground floor.

Site development will conform to the stated Open Space, Circulation and Development Objectives, specifically:

- Incorporating accessibility to and into the building as an integral design element; and
- Editing the overgrown existing plantings to address security issues.

Site Development will conform to the Master Plan Objectives by Area, as follows:

- Maintaining, conserving and building on the existing historic character, and complement the existing site context;
- Ensure that the character of new and renovated buildings and open spaces complement the existing context;

- Renew and rehabilitate buildings, infrastructure and the landscape; and
- Ensure that new elements in the landscape, such as signage, bike facilities, and service areas, do not detract from the quality of the environment.

(b) Campus Facilities Plan and the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.*

Constructed in 1900, Lewis Hall needs major improvements or replacements of all major building systems. It is one of the fifteen buildings in greatest need of renovation on the Seattle campus. Based on the weighted criteria developed as part of this plan, and the surge fit planning for the use of Condon Hall as temporary surge space, Lewis Hall is prioritized for renovation in Phase IV of the "Restore the Core" program and scheduled for predesign/design 07-09 (the predesign is completed and the design is in progress) and for construction in 2009-11. A brochure providing an overview of the "Restore the Core" program is included in the appendix. The study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for construction funding for a renovation of Lewis Hall is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - By consolidating the iSchool into a signature historic building, it will gain a strengthened identity, sense of place and new home.
  - The renovation of Lewis Hall will provide state of the art classrooms with configuration and the technology needed to support modern teaching methods.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - *University Science Indicators* announced that the iSchool was the fourth-largest contributor of papers to the field of library and information science over a recent five-year period. The new facilities will help maintain and even improve this ranking.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development
  - The quantity of information is constantly increasing. Making sense of the volumes of information is a challenge in almost every discipline and business. The work of the iSchool, enhanced by new facilities, contributes new research and education towards addressing this expanding need.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
  - Information literacy has become a basic skill like reading and writing required of all graduates to enhance their ability to compete in a global economy.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - The building will achieve LEED Silver requirements. Life cycle costing has been used in the design process to make decisions that help insure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

Lewis Hall is the fourth priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and our second priority in the Renovation category.

7. Age of Building Since Last Major Remodel:

a. Identify the number of years since the last substantial renovation of the facility. If only one portion of a building is to be remodeled, provide the age of that portion only. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

The last major renovation of Lewis Hall occurred in April of 1938 (70 years ago) when a Works Progress Administration project converted Lewis Hall into the new home of the School of Journalism.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. Condition of Building:

a. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2008 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

Lewis Hall is rated a 5 in the 2008 Comparable Framework. A 2008 Comparable Framework summary and a more detailed Consolidated Building Audit performed by the University of Washington's Campus Engineering group in 2008 is provided in the Appendix.

The structural review of this building indicated the following deficiencies: Lewis Hall was built in 1899 but the very first Uniform Building Code was published in 1930. There is no record of Lewis Hall being designed for wind and earthquake loads. The building was designed and constructed prior to the adoption of modern seismic codes. On the original roof and floor diaphragms wood planks were used which have no shear value in today's codes. The rafter-wall and floor-ceiling joist connections do not have blocking between rafters and joists. The exterior walls are unreinforced masonry (URM). The quality of mortar in URM walls should be determined by performing in-place shear tests. All deteriorated mortar joints in URM wall should be pointed and retested. The basement joists are sitting on sill plate which is on top of stone blocks. The sill plate needs to be anchored to the stone foundation below. The quality of mortar between layers of stone blocks should be determined by performing in-place shear tests. Sill plates on interior bearing walls and foundations should be inspected. Also the crawl space is asbestos contaminated. The main entrance porch has spalling columns and lintel beams that need to be replaced or repaired.

Architectural review noted the following deficiencies: Exterior masonry should be inspected and at a minimum be cleaned, tuckpointed and sealed. Roofing is in poor condition and should be replaced. Windows should be evaluated in terms of energy efficiency. There is little insulation in the walls and ceilings. The building is not accessible above the ground level and there is no elevator or accessible restrooms. All door hardware is not in compliance with ADA requirements.

Mechanical review noted the following deficiencies: Plumbing systems are aged and piping should be replaced. There is minimal ventilation in the building. Heating is aged and uses a hot water heat via a radiator. There is no cooling in the building. There are no fire sprinklers.

Electrical review noted the following deficiencies: The existing 800 amp system was upgraded in 1987. Emergency power is fed off the existing panel and should come from a separate source. Lighting is not in compliance with current energy codes. The fire alarm system needs to be replaced. The clock system needs to be replaced. It is noted that there is no standby power, no generator, and no public address system in the building.

b. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Lewis Hall was added to the Washington Heritage Register in 1971.

Designed by a locally prominent architecture firm, Lewis Hall has significant historical associations and visual prominence on the University of Washington campus. Although not a particularly distinctive structure architecturally, the solid brick and stone building nonetheless displays the qualities of good design in its honesty, simplicity, pleasing proportions, and human scale. Presumably, the lean budget for the building limited the ability of the architectural firm of Josenhans & Allan to produce a more elaborately detailed plan. The firm eventually designed half of the early buildings on the present UW Campus, including the two dormitory buildings completed in 1899, a 1901 power house (no longer extant), and the 1902 Science Hall, now known as Parrington Hall. These buildings, along with those designed by architect Charles W. Saunders, formed the nucleus of the campus for the first decade of its existence and influenced the development of all campus planning efforts.

As one of the first dormitory buildings constructed on the present UW campus, Lewis Hall has significant historical associations. Along with Clark Hall, it served as the only Universitysponsored student housing for more than thirty-five years and thus played a primary role in the lives of students and the development of student activities on campus. Functionally, its period of greatest significance lasted from 1899 to 1936, the years it served as a dormitory. After it no longer housed its original function, Lewis Hall survived because of administrative neglect and because it provided space for a variety of uses. As the campus developed around it according to plans that did not include it, Lewis Hall remained visually prominent, its late Victorian exterior contrasting with the Collegiate Gothic buildings of the Liberal Arts Quad and the modern high-rise dormitory buildings of the northeast campus. Today, Lewis Hall retains a certain dignified and respected campus role, serving as a reminder of the early days of the campus.

10. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, or energy code requirements. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

This project is a major renovation and as such is required to be designed to meet all current building codes. The current International Building Code will be utilized as the standard to which the building structure will be designed to meet. Lewis Hall was built prior to the first Uniform Building Code and a complete building analysis is required for the building structure. Evaluations shall include seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a “Life Safety” performance level (as defined by ASCE 31). The project updates all major building systems utilizing sustainability goals to achieve a LEED Silver certification or higher. The project will be designed to the current Washington State Energy Code. The building will be fully accessible and compliant with ADA codes with new entrances accessible, elevator access to all levels, and accessible restrooms on all levels.

11. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

Lewis Hall differs from other projects listed, as it reflects both a renovation and the construction of an addition. The comparable projects listed are either a scale match and/or have similar program spaces, and all are historic renovations. Lewis Hall is primarily office use and there are computer labs and two classrooms included. Clark Hall is the same vintage building but the use is quite different. Clark houses the ROTC function, whereas Lewis Hall houses the more technically orientated Information School.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Proposed Lewis Hall	University of Washington	33,750	$14,026,641	$381.64	12/2010	17%	$446.53
Miller Hall	University of Washington	33,543	$16,085,881	$368.72	6/2013	27%	$479.56
Clark Hall	University of Washington	30,541	$7,694,000	$343.94	3/2009	7%	$368.02
Denny Hall	University of Washington	89,745	$36,629,983	$345.99	4/2011	17%	$408.16

The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Detailed coordination will be necessary to minimize disruption to adjacent buildings. Including a General Contractor/ Construction Manager on the project team during the design phase has helped the project team to make the most cost-effective decisions concerning the configuration of the construction staging area and methods of construction. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

12. 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.

All classrooms, instructional labs, offices spaces in the proposed building will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF)	17,500 ASF
(b) Gross square feet (GSF); and	33,736 GSF
(c) Net building efficiency (ASF divided GSF).	52%

The gross area of the planned renovation plus the addition is 33,750 GSF. The existing configuration of Lewis Hall being once a dormitory and framed in wood limits the overall efficiency of the building.

13. Adequacy of Space:

Describe whether and the extent to which the project is needed to meet modern pedagogical standards and/or to improve space configurations, and how it would accomplish that.

The Information School (iSchool) assignment to Lewis Hall will allow for their existing space within Mary Gates Hall to be used to consolidate other key student services currently located in several other campus buildings. The benefit to the iSchool and the University is its location in a building identified as the Information School and also having a building that is customized to fit its needs and work processes. The goal is to improve efficiencies, maximize capacity and create a cutting edge new home for the Information School.

The iSchool has intentionally made adjustments to the size of office spaces in the design (identifying 100 asf versus 140 asf and greater), in order to achieve collaboration spaces that clearly express the values and identity of the school and that focus on learning, discovery and research. The Information School is a very inclusive intellectual and professional community dedicated to high quality, high impact research and education. The School uses the term "School of One" to emphasize its valuing of an open, ethical, engaged and collaborative community.

The Information School academic programs embrace contemporary pedagogical approaches that stress group work, collaboration, project-based learning, interdisciplinarity, and professional and respectful communication. Students are encouraged to learn with and from one another, probe new ideas with their instructors and to be actively engaged in intellectual and professional discourse across academic programs. The iSchool has therefore assigned a design priority to break out spaces and small collaborative spaces that can be appropriated for use by small teams of students (and faculty) working on classroom activities, projects and capstone activities or simply sharing and exchanging ideas.

14. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	10,230	58%
Student Advising/Counseling Services	1,330	8%
Childcare	0	0%
Faculty offices	2,300	13%
Administrative	3,640	21%
Maintenance/Central Stores/Student Center	0	0%
Total	17,500	100%

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20081003**
Project Title: **Lewis Hall Renovation**

Description

Starting Fiscal Year: 2008
Project Class: Preservation
Agency Priority: 6

Project Summary

This is a re-appropriation request and a request for 2009-2011 state construction funding of $23,130,000 for the renovation of Lewis Hall. Constructed in 1896, Lewis Hall is one of the first buildings constructed on the Seattle Campus, and is listed on the Washington State Heritage Register. Lewis Hall is one of fifteen buildings identified in the UW "Restore the Core" program of major building renovations described in the June 2004 study. The building seismic condition is classified as a Priority II which will require major structural renovations to minimize earthquake related damage. The building infrastructure, from the exterior brick masonry shell to the interior systems are subject to total replacement and/or major upgrades. This project is a major restoration to address significant disrepair, long overdue upgrades and many building and safety code issues.

Project Description

This is a re-appropriation request and a request for 2009-2011 state construction funding of $23,130,000 for the renovation of Lewis Hall. Lewis Hall, a companion building to Clark Hall, is one of the first buildings constructed on the Seattle campus and is listed on the Washington Heritage Register. This wood frame building with a masonry exterior was the original men's dormitory building. Constructed in 1896, the exterior and interior of Lewis Hall has deteriorated over its 100 years of impact from normal use and climate. Lewis Hall is one of the fifteen buildings included in the UW Building Restoration & Renewal Prioritization Study. This building occupies a prominent position in the University's history and culture. The overall scope of work for Lewis Hall includes, but is not limited to: Strengthen building cores, structure and shell to better resist earthquakes; meet current building codes; reinforce floor and roof diaphragms; anchor copings, masonry veneer, and sill plates to the structure and foundation; repair and restore exterior brick masonry and sandstone walls; replace all mechanical, electrical, and communication infrastructure; address ADA needs including ADA compliant access, elevators, restrooms, ramps, etc.; and improve layout to make more efficient use of existing space. The estimated total project budget is $25,130,000.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management Impacts

See Attached GMA questionaire

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	**Account Title**	**Estimated Total**	**Prior Biennium**	**Current Biennium**	**Reapprops**	**New Approps**
057-1	State Bldg Constr-State	24,938,633		1,808,633		23,130,000
	Total	**24,938,633**	**0**	**1,808,633**	**0**	**23,130,000**

Future Fiscal Periods

2011-13	**2013-15**	**2015-17**	**2017-19**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20081003**
Project Title: **Lewis Hall Renovation**

Funding

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State				
	Total	0	0	0	0

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2007	12/01/2007
Design	4/1/2008	7/1/2009
Construction	11/1/2009	12/1/2010

	Total
Gross Square Feet:	32,470
Usable Square Feet:	17,500
Efficiency:	53.9%
Escalated MACC Cost per Sq. Ft.:	411
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	9.59%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		0	0.0%
Consultant Services			
Pre-Schematic Design Services		300,000	1.2%
Construction Documents		838,004	3.3%
Extra Services		785,582	3.1%
Other Services		660,141	2.6%
Design Services Contingency		348,983	1.4%
Consultant Services Total		2,932,710	11.7%
Maximum Allowable Construction Cost(MACC)	13,335,566		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		13,335,566	53.1%
GCCM Risk Contingency		437,520	1.7%
GCCM or Design Build Costs		2,145,435	8.5%
Construction Contingencies		2,000,335	8.0%
Non Taxable Items		0	0.0%

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360 - University of Washington

Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20081003
Project Title: Lewis Hall Renovation

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Sales Tax	1,612,697	6.4%
Construction Contracts Total	**19,531,553**	**77.7%**
Equipment		
Equipment	480,015	1.9%
Non Taxable Items	0	0.0%
Sales Tax	43,201	0.2%
Equipment Total	**523,216**	**2.1%**
Art Work Total	**66,678**	**0.3%**
Other Costs Total	**418,694**	**1.7%**
Project Management Total	**1,657,149**	**6.6%**
Grand Total Escalated Costs	**25,130,000**	
Rounded Grand Total Escalated Costs	**25,130,000**	

Operating Impacts

No Operating Impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 24
Cost Estimate Title: Lewis Hall Renovation
Report Number: CBS003
Date Run: 8/13/2008 8:35AM

Version: 01 2009-11, Draft
Project Number: 20081003
Project Title: Lewis Hall Renovation
Project Phase Title:
Agency Preferred: Yes

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Statistics

Gross Sq. Ft.: 32,470
Usable Sq. Ft.: 17,500
Space Efficiency: 54%
MACC Cost per Sq. Ft.: 385
Escalated MACC Cost per Sq. Ft.: 411
Remodel? Yes
Construction Type: College Classroom Facilities
A/E Fee Class: B
A/E Fee Percentage: 9.59%

Schedule

Schedule	Start Date	End Date
Predesign:	07-2007	12-2007
Design:	04-2008	07-2009
Construction:	11-2009	12-2010
Duration of Construction (Months):	13	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		300,000	
Construction Documents		838,004	
Extra Services		785,582	
Other Services		660,141	
Design Services Contingency		348,983	
Consultant Services Total			**2,932,710**
Site work		0	
Related Project Costs		0	
Facility Construction		13,335,566	
Construction Contingencies		2,000,335	
Non Taxable Items		0	
Sales Tax		1,612,697	
Construction Contracts Total			**19,531,553**
Maximum Allowable Construction Cost(MACC)	**13,335,566**		
Equipment		480,015	
Non Taxable Items		0	
Sales Tax		43,201	
Equipment Total			**523,216**
Art Work Total			**66,678**
Other Costs Total			**418,694**
Project Management Total			**1,657,149**
Grand Total Escalated Costs			**25,130,000**
Rounded Grand Total Escalated Costs			**25,130,000**

Additional Details

Alternative Public Works Project: Yes

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Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	24	**Report Number:**	CBS003
Cost Estimate Title:	Lewis Hall Renovation	**Date Run:**	8/13/2008 8:35AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20081003		
Project Title:	Lewis Hall Renovation		
Project Phase Title:			

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number: 24
Analysis Date: July 22, 2008
Cost Estimate Title: Lewis Hall Renovation

Detail Title: Lewis Hall 09-11
Project Number: 20081003
Project Title: Lewis Hall Renovation
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Statistics

Gross Sq. Ft.: 32,470
Usable Sq. Ft.: 17,500
Rentable Sq. Ft.:
Space Efficiency: 54%
Escalated MACC Cost per Sq. Ft.: 411
Escalated Cost per S. F. Explanation

Construction Type: College Classroom Facilities
Remodel? Yes
A/E Fee Class: B
A/E Fee Percentage: 9.59%
Contingency Rate: 10.00%
Contingency Explanation

Management Reserve: 5.00%
Projected Life of Asset (Years):
Location Used for Tax Rate: Seattle
Tax Rate: 9.00%
Art Requirement Applies: Yes
Project Administration by: AGY
Higher Education Institution?: Yes
Alternative Public Works?: Yes

Project Schedule	Start Date	End Date
Predesign:	07-2007	12-2007
Design:	04-2008	07-2009
Construction:	11-2009	12-2010
Duration of Construction (Months):	13	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 12,501,702
MACC (Escalated):	$ 13,335,566
Current Project Total:	$ 23,773,219
Rounded Current Project Total:	$ 23,773,000
Escalated Project Total:	$ 25,130,000
Rounded Escalated Project Total:	$ 25,130,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	300,000			
SubTotal: Pre-Schematic Design Services		**300,000**	1.0000	**300,000**
Construction Documents				
A/E Basic Design Services	827,250			
SubTotal: Construction Documents		**827,250**	1.0130	**838,004**
Extra Services				
Civil Design (Above Basic Services)	50,000			
Geotechnical Investigation	15,000			
Commissioning (Systems Check)	40,000			
Site Survey	18,000			
Testing	100,000			
Leadership Energy & Environment Design List(LEED)	95,000			
Voice/Data Consultant	30,000			
Value Engineering Participation & Implementation	25,000			
Constructability Review Participation	25,000			
Environmental Mitigation Services (EIS)	20,000			
Landscape Consultant	70,000			
Security Consultant	10,000			
Graphics	7,500			
Hazardous Materials Consultant	50,000			
Other	150,000			
Quality Control Consultant	15,000			
Permit Expeditor	5,000			
Interior Design	50,000			
SubTotal: Extra Services		**775,500**	1.0130	**785,582**
Other Services				
Bid/Construction/Closeout	371,663			
HVAC Balancing	15,000			
Construction Support	232,200			
SubTotal: Other Services		**618,863**	1.0667	**660,141**
Design Services Contingency				
Design Services Contingency	252,161			
Change Order Design Allowance	75,000			
SubTotal: Design Services Contingency		**327,161**	1.0667	**348,983**
Total: Consultant Services		**2,848,774**	1.0295	**2,932,710**
CONSTRUCTION CONTRACTS				
Facility Construction				
F10 - Special Construction	252,441			
Complete Facillities	11,905,000			
Additional Escalation	344,261			
SubTotal: Facility Construction		**12,501,702**	1.0667	**13,335,566**
Maximum Allowable Construction Cost (MACC)		**12,501,702**	1.0700	**13,335,566**
GCCM Risk Contingency				
GCCM Risk Contingency	410,162			
SubTotal: GCCM Risk Contingency		**410,162**	1.0667	**437,520**
GCCM or Design Build Costs				
GCCM Fee	765,063			
Bid General Conditions	415,410			
GCCM Preconstruction Services	250,000			
Negotiated Support Services	580,809			

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
SubTotal: GCCM or Design Build Costs		**2,011,282**	1.0667	**2,145,435**
Construction Contingencies				
Management Reserve	625,085			
Allowance for Change Orders	1,250,170			
SubTotal: Construction Contingencies		**1,875,255**	1.0667	**2,000,335**
Sales Tax		**1,511,856**	1.0667	**1,612,697**
Total: Construction Contracts		**18,310,257**	1.0667	**19,531,553**
EQUIPMENT				
E10 - Equipment	50,000			
E20 - Furnishings	400,000			
SubTotal:		**450,000**	1.0667	**480,015**
Sales Tax		**40,500**	1.0667	**43,201**
Total: Equipment		**490,500**	1.0667	**523,216**
ART WORK				
Total: Art Work		**66,678**	1.0000	**66,678**
OTHER COSTS				
Permits, Insurance, Connectivity	399,861			
Total: Other Costs		**399,861**	1.0471	**418,694**
PROJECT MANAGEMENT				
Agency Project Management	1,355,149			
Contract Construction Management	267,000			
Preactive PM Fees	35,000			
Total: Project Management		**1,657,149**	1.0000	**1,657,149**

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360 - University of Washington

Cost Estimate Summary and Detail

2009-11 Biennium

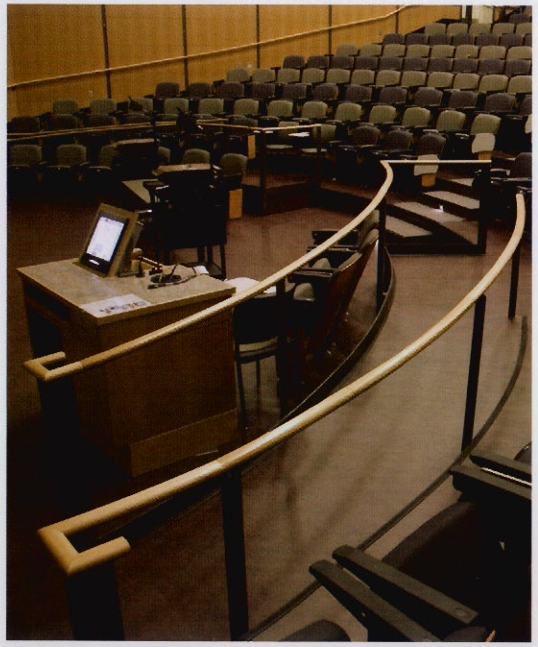
*

Cost Estimate Number: 24
Cost Estimate Title: Lewis Hall Renovation

Report Number: CBS003
Date Run: 8/13/2008 8:35AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20081003	20081003
Cost Estimate Number	24	24
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

The Results



Architecture Hall

Guggenheim Hall

The Next Phase

DENNY HALL opened in 1895 and is the oldest building on campus. It was named for Arthur Denny, the pioneer who donated the majority of the University's original 10-acre downtown tract. Denny Hall is home to the Departments of Anthropology, Classics, Germanics, and Near East Studies.

Denny Hall, then and now

LEWIS HALL is among the oldest buildings on campus, and was built as a dormitory for men in 1899. Named after the famous Pacific Northwest explorer Meriwether Lewis, Lewis Hall is the future home of the Information School.

Lewis Hall, then and now

BALMER HALL will be completely rebuilt as a component of the University's new Business School Complex.

The Benefits

REFURBISHED BUILDINGS WILL:

- Meet current seismic and safety requirements
- Provide modern technology to students, faculty and staff
- Conserve resources through sustainable design and LEED® Silver certification

RESTORE THE CORE'S efficient schedule allows projects to be completed in a four-year span, rather than six. This accelerated schedule has saved $18 million in state funds to date.

- Architecture Hall: $4.7 million saved
- Guggenheim Hall: $6.1 million saved
- Johnson Hall: $7.2 million saved

GENERATIONS of Washington citizens have helped create the campus facilities that support a world-class education at the University of Washington. The Restore the Core program will ensure these benefits for future generations.

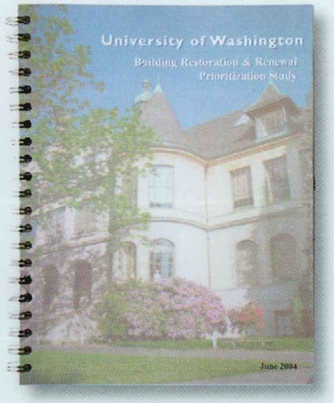
Consultants:
Ira Fink and Associates, Inc.
Otak, Inc.

RESTORING THE CORE

The University of Washington's major program of building restoration is at the halfway mark

The Plan

THE UNIVERSITY'S *Building Restoration & Renewal Prioritization Study* of 2004 established a plan to renew and renovate fifteen significant buildings on the Seattle Campus.


University of Washington
Building Restoration & Renewal Prioritization Study
June 2004

The deteriorating condition of these buildings—providing more than 900,000 gross square feet, and housing more than 40 academic programs—was threatening our ability to deliver core campus functions in teaching, research, and public service.

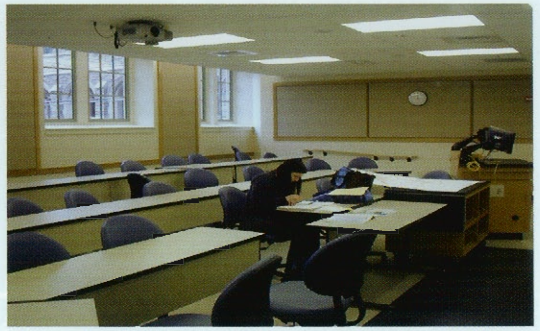
In recognition of the need to protect and renew the priceless resource that our academic buildings represent, the University has focused its attention on restoring our core campus facilities so that they may be used and enjoyed by future generations.

Restoration Schedule

PHASING SCHEDULE	Phase I 2003–2005	Phase II 2005–2007	Phase III 2007–2009	Phase IV 2009–2011	Phase V 2011–2013	Phase VI 2013–2015
PLANNING/ DESIGN	Architecture Hall Guggenheim Hall	Savery Hall Clark Hall Playhouse Theater MHSC H-Wing	**Denny Hall** **Lewis Hall** **Balmer Hall**	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall	—
CONSTRUCTION	Johnson Hall	Architecture Hall Guggenheim Hall	MHSC H-Wing Savery Hall Clark Hall Playhouse Theater	Denny Hall Lewis Hall Balmer Hall	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall

The Progress


Construction funding for the renovation of Johnson Hall was approved by the state in the 2003-2005 capital budget.


Renovation of Johnson Hall was completed in 2005.

BUILDING RESTORATION & RENEWAL STATUS

■ Completed ▨ In Process ☐ Future

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

August 15, 2007 B&P 1177

Consolidated Building Audit for:

Lewis Hall

By: Campus Engineering

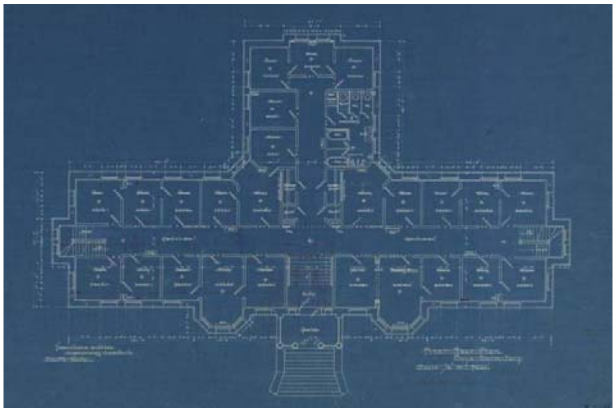
General

This report reflects the status of existing building and site components and infrastructure for **Lewis Hall** and any maintenance and/or operational issues related to these systems. We also have preliminary recommendations for repairs or renewal of these systems.

Please note; this report does not replace the need for a detailed investigation and evaluation. We merely point them out here for awareness and so that they are addressed early.

Background

Lewis Hall was constructed in 1896 as the Boy's Dormitory and named after the explorer Meriwether Lewis. The building was converted to a women's dormitory in 1922, and has been home to numerous occupants since. The building consists of four stories plus an attic space and a partial basement and crawl spaces. The structure is masonry perimeter bearing walls with wood post-and-beam floor and roof framing. Windows are original single hung, wood sash with single pane glazing. Entrance doors are original wood style and rail with single pane glazing. The roof is composition shingle with copper flashing, gutters, downspouts and trim. Lewis Hall is on the Washington State Heritage Register. The very first Uniform Building Code was published in 1930.



The hall is a 4-story building plus an attic space and the front is facing south. The roof is steeply pitched at 1:1 ratio, the overall building height is approximately 55' above grade. The footprint of building is a "Tee" shape, the front portion is 138' wide by 36' deep and the rear section is 36' by 36'. There is a 2'-8" high crawl space, except the mechanical room is 6'-4" below grade. The total space of the lower three floors is 18,700 SF and usable space in the attic is 5,100 SF.

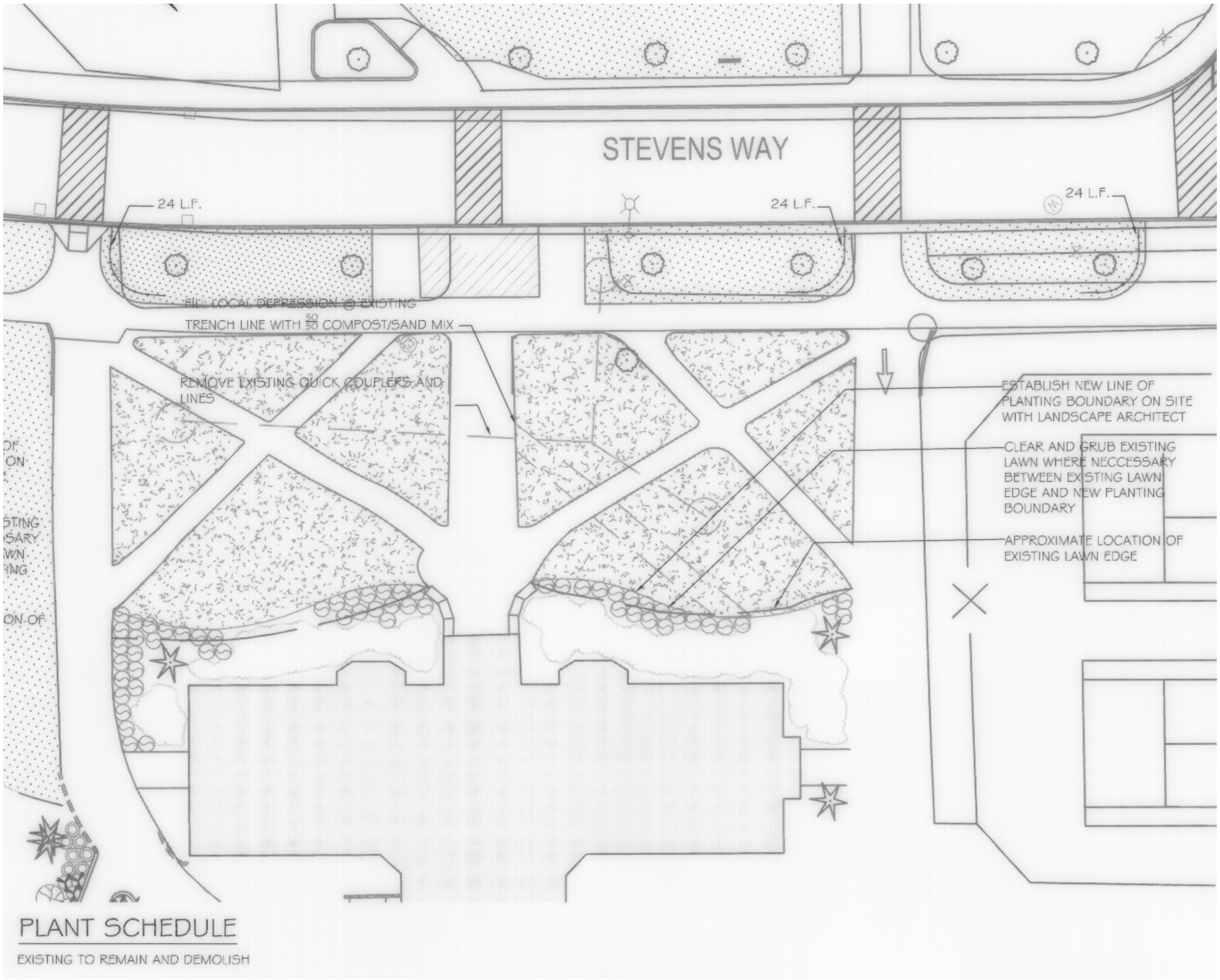
Lewis Hall is located on level ground at the north end of campus which is in zone A of UW seismic hazard map, base on FEMA Table 2.1, the site coefficient S=1.2.

Building Condition: Architectural

Site Conditions

Background/Problems:
Prior to repaving of Stevens Way in 2006, vehicle access to Lewis Hall was via asphalt paved drives that surrounded three sides of the site. Vehicle access has now been diverted to the parking area behind Lewis Hall. There may now be an excess of paved surface in the vicinity of Lewis Hall.

Recommendations:
Study site pedestrian traffic flow with the goal of reducing the amount of site paving north and south of Lewis Hall.



Exterior Walls and Windows

Background/Problems:
Exterior masonry bearing walls are multi-wythe brick construction supporting wood framed floors and roof. There are steep masonry gables with sandstone copings at both ends of the building and at the main entrance. The foundation is sandstone or faced with sandstone. The brick has been parged, painted and/or stained several times, however most of this finish has faded or peeled away. Sandstone foundation stone has suffered delamination over the years from water damage. The gable copings might not be pinned to the structure below. There does not appear to be any thru-wall flashing at the copings or at stone lintels and sills. The front portico is a masonry structure of sandstone columns and lintels with no obvious mechanical connection between them. The building is not insulated to current energy codes.

Recommendations:
Perform a study/survey to determine the actual construction and condition of masonry walls, (is the face veneer bonded to the main wall?), copings, trim and stone foundations. This study should identify each component of the exterior wall, describe its condition and recommend remediation. Minimum work should include removal of all masonry applied finishes, conduct non-abrasive cleaning, tuck pointing and sealing. Masonry over and adjacent to building entrances should be seismically stabilized.

Background/Problems:
The windows are original wood sash, single hung with single pane glazing. Frames and sash are in good condition but offer little energy efficiency.

Recommendations:
Replace original windows with energy efficient window units that are similar in appearance to original.

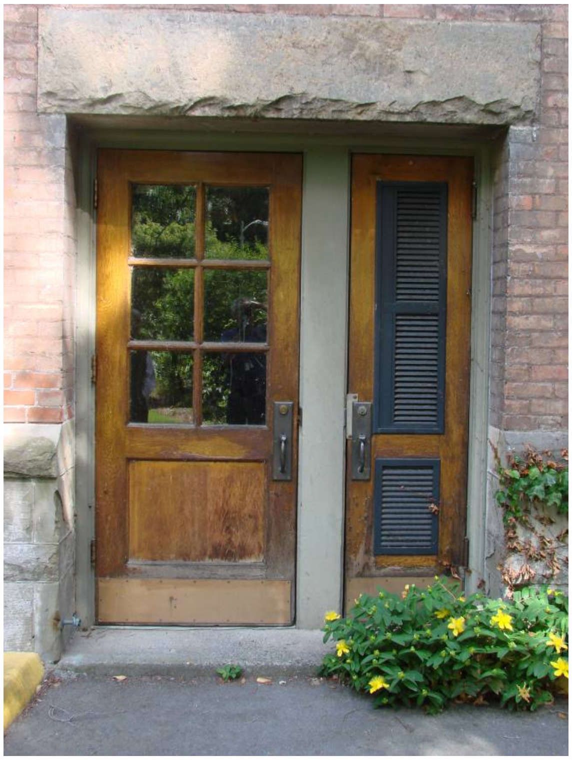
Foundation Drain and Waterproofing

Background/Problems:

Recommendation:

Roofing

Background/Problems:
On the original roof diaphragms, wood planks were used. The planks on the roof are at 90 degrees to the rafters which provides little value as a horizontal diaphragm and at 45 degrees diagonal to the floor joists which is recognized for a diaphragm value.



The roofing is three tab composition shingles on a steep sloped wood roof and is in poor condition. The gutters, flashing and downspouts are copper in poor condition.

Recommendations:
During the 1959 alteration of building, plywood sheathing was used in certain areas of building. It is recommended to put plywood sheathing on the roof and the floors to provide diaphragm action**.**

Replace the roofing, flashing, gutters and downspouts.

Floors & Finishes

Background/Problems:
On the original floor diaphragms, wood planks were used.

Recommendations:

Background/Problems:
The interior of Lewis Hall is a collection of original materials and a series of remodels. Many of the interior finishes may contain lead and/or asbestos. No part of this interior space with the possible exception of some interior doors is deemed acceptable for salvage.

Recommendations:
Demolish all interior conditions including stairs, walls, floor finishes, ceilings, and interior cover over perimeter walls.

Walls and Finishes

Background/Problems:

Recommendations:

Ceilings and Finishes

Background/Problems:

Recommendations:

Doors and Hardware

Background/Problems:
All entrance and exit doors are of wood style and rail construction with a variety of panel and glazing configurations. Finish appears to be varnish. Frames are solid wood, some with glazed transoms or sidelites. Frames are generally painted to match windows. Doors and frames are generally in good condition for their age, but beyond their intended useful life.

Recommendations:
Replace all entrance and exit doors with wood style and rail doors to match original architectural appearance while upgrading to current code and for use of CAAMS.

Vertical Transportation

Background/Problems:

Recommendations:

Accessibility

Background/Problems:
The main entrance to Lewis Hall has a raised porch with grand stairs and a split-level entrance with front doors entering at the mid-level interior stair landing. This condition is not accessible to persons

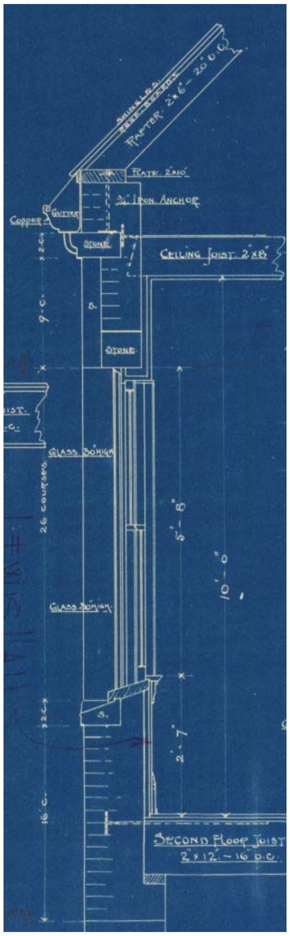
in a wheel chair. Other entrances and exits are at floor level with one at the rear of the building being accessible via a ramp up from the surrounding pavement.

Lewis hall is a multi-story building without an elevator. So, the only accessible interior spaces, including toilet facilities, are on the first floor.

Recommendations:
Improve building entrance accessibility so there are at least two wheelchair accessible entrances.

Install 2 elevators serving all usable floors to make all floors accessible.

Provide new toilet rooms on each floor.



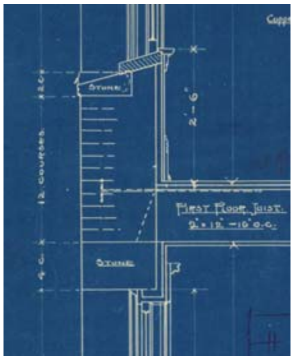
Energy Code Compliance

Background/Problems:
This building does not comply with the current Seattle Energy Code.

Recommendation:
Comply with the current Seattle Energy Code and LEED requirements.

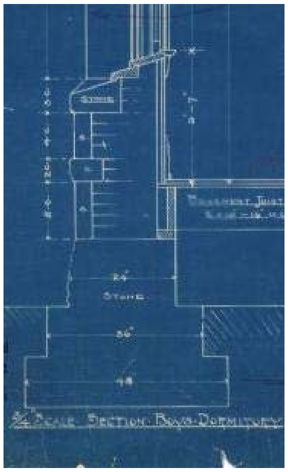
Building Condition: Structural

Background:
The exterior is a 17" unreinforced brick wall, the interior is wood framing. The exterior walls are supported on three layers of stones which are 24", 36" and 48" wide respectively. The interior posts are supported on a continuous 8" masonry footing.



During the 1959 alteration of the building, plywood was used in certain parts of wall and floor. Otherwise, wood planks are used on the original walls, floors and the roof. The shiplap on the roof is at 90 degrees to the rafters and 45 degrees to the floor joists.

The 2x6 rafters are toe nailed to the top plate of exterior walls and the plate is anchored to brick wall by ¾" steel anchor bolts at an unknown spacing. The ceiling and floor joists are bearing on the brick wall with metal fasteners connecting the top of joist to wall.



Background/Problems:
There is no record of Lewis Hall being designed for wind and earthquake loads. Building was designed and constructed prior to the adoption of modern seismic codes.

Recommendations:
Evaluate seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a "Life Safety" performance level (as

defined by ASCE 31). Design the upgrade per ASCE 41, reference to FDI for seismic analysis & upgrade.

Background/Problems:
The 2x6 rafters are toe nailed to top plate of exterior walls. The top plate is anchored with ¾” bolts.

Recommendations:
The rafter-wall connection needs blocking between rafters, provide a continuous chord along the perimeter. One should follow the load path from roof diaphragm to the top brick walls and provide all necessary nailing and bolt connections. The existing anchors need testing in pullout and the spacing needs be verified.

Background/Problems:
The floors and ceiling joists are bearing on the brick walls with a steel tie from top of joist anchor into the brick wall.

Recommendations:
Provide wood blocking between joists, continuous perimeter chord, and connect plywood diaphragms to the exterior wall by fasteners. Where joists are parallel to exterior walls, one should verify what type of connection exists and the adequacy.

Background/Problems:
The exterior walls are unreinforced masonry (URM). The wall thickness varies from 15.5” at the first floor to 9” at the top. The wall is approximately 32’ high.

Recommendations:
The quality of mortar in the URM walls should be determined by performing in-place shear tests. All deteriorated mortar joints in the URM walls should be re-pointed and retested.

Background/Problems:
The basement joists are sitting on a sill plate which is on top of stone blocks. The foundation is made of three tiers of stone with mortar in between.

Recommendation:
The sill plate needs to be anchored to the stone foundation below. The quality of mortar between layers of stone blocks should be determined by performing in-place shear tests. The sill plate appears to be treated wood, but needs to be verified.

Background/Problems:
Interior bearing wall and asbestos contaminated soil in crawl space.

Recommendations:
The soil in the crawl space is mixed with asbestos material and this is a restricted area. Looking through an access door in the mechanical room, the basement floor joists are bearing on an interior brick wall. The sill plate should be checked for the type of wood and anchor bolts. If anchor bolts exist they should be tested for tension capacity. The mortar of the foundation should be tested for shear strength. Any deteriorated mortar should be re-pointed and tested.

Background/Problems:
The steel fire escape ladder and landings have been removed.

Recommendations:
The original anchors of the steel fire escape present 4” diameter cone pockets. The pockets in the brick wall should be repaired.

Background/Problems:
The main entrance porch is about 10’-0”x22’-0”. The roof is supported on four 12”-diameter by 10’ tall URM columns. The URM lintel beams spans 4’, 7’ and 4’ across the front.

Recommendations:
There is spalling at the column top and bottom, also part of lintel beams. The beam should be connected to column top by steel dowels; the column base should be connected to the floor by steel connectors. The roof and lintel beams should be checked for strength.

Building Condition: Civil & Site Utilities

Domestic Water

Background/Problems:
The 4” domestic water main enters the mechanical room from the south side of the building. The piping material is galvanized steel and was installed in 1965.

Recommendations:
Replace existing galvanized main with ductile iron with cement lining from building to existing 4” isolation valve” located adjacent to Stevens Way.

Sanitary Sewer

Background/Problems:
The 6” clay sanitary sewer exits the building and is routed to a manhole on the northwest side.

Recommendation:
Replace the existing sewer line with a new from the building to the existing manhole and seal any cracks inside the existing manhole.

Storm Drainage

Background/Problems:
The storm drainage and foundation drainage are the original clay piping. The 6” storm drainage is routed from the north side of the building and connects to the combination sewer.

Recommendations:
Provide a new storm drain line from the building to a new storm drain manhole to eliminate the combination sewer serving the building. New pipe should be provided from the new manhole to an existing storm drain piping or a manhole.

Site Irrigation System

Background/Problems:
Site irrigation system was installed in 2006.

Recommendation:
Repair or replace existing irrigation system as required by all new site work.

Fire Protection Service

Background/Problems:
Contact University of Washington Environmental Health and Safety Department for additional information.

Recommendation:
Contact University of Washington Environmental Health and Safety Department for specific requirements.

Utilities Distribution Service

Background/Problems:
Steam, condensate, and control air have been installed in a conduit or direct buried from utility tunnel manhole NE-8.

Recommendation:
The integrity of the buried piping from manhole NE-8 to Lewis Hall should be evaluated and replaced if necessary.

Building Condition: Mechanical Systems

Utilities Distribution Systems from the Tunnel

Background/Problems:
Lewis Hall does not have a utility tunnel connection; however, the building is served by the central utility system. The steam and condensate systems are not metered at this time.

Recommendation:
Install a DDC monitored meter on either the steam system or the condensate return system.

The University of Washington Master Plan Seattle Campus, dated January 2003 identified a development site northeast of Lewis Hall designated as 7C. The requirements for this site should be considered when determining the pipe sizes for central utility services.

Plumbing Systems

Background/Problems:
Domestic water main and system is galvanized steel. A filter was added at the third floor kitchen because of the water quality in the building. Domestic hot water is provided by a single wall steam to water heater. Domestic water consumption in the building is not monitored.

Recommendation:
Replace the domestic water system throughout the building. Provide a double wall steam semi-instantaneous hot water heater for the domestic water system, low flow toilets and low flow urinals to

meet the current code requirements. Provide a DDC monitored water meter on the domestic water system. Replace the storm and sanitary plumbing inside the building.

Ventilation Systems

Background/Problems:
This building has limited mechanical ventilation. The perimeter offices have operable windows with perimeter hot water radiation. Fans were installed to serve rooms 100A, 401, 403, 404, 405, 406 and 407. The fan serving room 100A was shut down because it was too loud. There is a transient study space in rooms 400 and 400A, which does not have any mechanical ventilation, but air is provided through a door open to room 408. The fan serving rooms 401, 403, 404, 405, 406 and 407 has reached the end of its useful life

Recommendation:
Evaluate the rooms in the building that require mechanical ventilation. If room 100A is maintained in its current use find a quieter fan to use. The fan serving rooms 401, 403, 404, 405, 406 and 407 should be replaced. Provide mechanical ventilation to room 400 and 400A. Evaluate air circulation and effectiveness in all spaces and provide required ventilation.

Heating Systems

Background/Problems:
The heating hot water converter and circulation pumps are located in the basement mechanical room and were installed around 1960. Condensate is returned by gravity and is not currently measured. Heating hot water is circulated through the building to provide heat through radiators and air handling unit heating coils. The heating system temperature control is inconsistent.

Recommendation:
The converter and pumps have reached the end of their useful life and should be replaced. Evaluate the condition of the existing radiators and piping, replace if required.

Cooling Systems

Background/Problems:
This building does not have any mechanical cooling system and can get hot during parts of the year.

Recommendation:
Provide a better ventilation system for additional air movement.

Control System

Background/Problems:
The building has a pneumatic control system.

Recommendation:
Provide a new Direct Digital Control (DDC) system.

Building Systems Condition: Electrical

Electrical (Normal Power) Service Connection and Main Transformer

Background/Problems:
The electrical service to Lewis Hall was upgraded in 1987 from three 25kVA single phase transformers to a single 300 kVA pad-mounted transformer located east of the building with an exterior distribution switchboard.

The primary side of the 300 kVA 13.8kV-208/120V 3 phase 4 wire building transformer is fed from two medium voltage switches in Manhole NE9. The switches are NE9PS3 and NE9PS4. NE9PS3 switches 13.8kV feeder EB3 and NE9PS4 switches feeder EB4. The secondary side of the 300kVA transformer feeds the 1000 amp bus, 3 phase, 4 wire, 208/120 volt distribution switchboard; adjacent to the transformer via two IAC 500 MCM 4/C cables. This distribution board then provides power to Lewis Hall and also to the KUOW antenna and to the North Antenna field. Lewis Hall is fed by an 800 amp breaker in the exterior switchboard. The service is 2 sets of 3 # 500 MCM and 1 #250 MCM cables in 4-inch conduits.

The service disconnect for Lewis Hall is a 800 amp main breaker located in the new panel DP in Room 123. All of this equipment is in good condition. It was installed in 1987.

Lewis Hall (31,347) sq ft uses about 12.673 kWh/sq ft/month and has a demand of 34 kW (1.08 W/sq ft) from metering information at the time of this report.

Recommendation:
The service equipment is in good condition and may be re-used if the electrical load stays under the rating of the switchboard. If the load increase exceeds the rating or 480/277 volt service is needed, then the building transformer and exterior switchboard will need to be replaced.

Service Entrance Equipment

Background/Problems:

Recommendation:

Distribution System

Background/Problems:
The distribution system was upgraded in 1987 with the new service. The building has 4 risers, each feeding single panels located on the 1st, 2nd, 3rd and 4th floor electrical rooms. Panels 1 and 1A are located in Room 123. The panels are 42 circuit panels. Panel 1A is fed from Panel 1. Panel 2 on the second floor is a 42 circuit panel with 9 circuits free. Floor 3 has Panel 3 with 4 circuits available. Floor 4 has Panel 4 which has the supply fan, the exhaust fan, the dumbwaiter and telephone cabinet as loads along with receptacles. Branch circuits feeding lighting and receptacle loads are fed from these panels. The panels installed in 1987 are in good condition.

Recommendation:
The distribution system is in good condition and may be re-used if interior layout does not change especially the location of the electrical rooms. More circuits may be required which can be provided by another panel on the floors. The present risers are 3/0 conductors with a capacity of 200 amps

which should provide some capacity for another panel on each floor. Ampere recordings have a peak demand of 114 amperes on the service panel. Future loads may require more panels as there are not a lot of unused breakers in the existing panels.

Conduit/Wiring

Background/Problems:
The conduit and wiring for the feeders to the panels were installed in 1987 in the Northeast Campus Electrical Service Upgrade. These feeders are 3/0 feeders.

Recommendation:
If the feeder conductors are to be re-used, it is recommended that insulation tests be performed and replace feeders as necessary.

Although some of the branch circuit wiring is relatively new and may be re-used, replacement of all branch circuits is recommended.

Emergency Power

Background/Problems:
The emergency power comes from a tap ahead of the main. The tap feeds a 50 amp breaker which provides power to the emergency panel "X" on the first floor Rm. 123.

Recommendation:
The existing configuration does not comply with current Life Safety Codes and must be upgraded with a new feed from the campus Emergency and Standby Power System (ESPS) in a major renovation. This should be accomplished by connecting into the existing 2.4KV emergency system located in manhole NE9 or NE8. Feeder G5-09 can be tapped into link box NE8LB1 in manhole NE8. The link box NE9LB3 in Manhole NE9 is full. All equipment should be 5KV rated for future connection to the 4.16KV emergency system when it becomes available. This includes a dual wound transformer that can be connected DELTA-WYE at both 2.4KV and 4.16KV.

Lighting

Background/Problems:
The lighting fixtures in the building have been changed to T-8 lamps. There are predominantly surface mounted prismatic and egg-shell type fluorescent fixtures in the corridors along with some flush mounted fixtures in dropped ceilings. There have been a number of lighting upgrades to the different offices located in the building. The switching is locally done in individual rooms.

Recommendation:
Upgrade lighting and switching to meet the Seattle Energy Code.

Lighting Control

Background/Problems:
The lighting control is mostly single switches controlling each room, which is not compliant to the Seattle Energy Code.

Recommendation:
Replace lighting control system to meet the Seattle Energy Code.

Emergency/Egress Lighting

Background/Problems:
Emergency lighting is done using the T-8 fixtures which are on the emergency circuits. The Exit lights are LED type.

Recommendation:
In conjunction with providing an emergency power system served by the central ESPS, provide new emergency and egress lighting that meets current code requirements.

Building Condition: Signal

Access Control Systems

Background/Problems:
Access control is provided via keyed doors. There is a handicap access automatic door with a pushbutton for access located at the ground floor on the south side of the building. There appears to be no use of access control system (CAAMS) access control.

Recommendation:
Upgrade access control system to meet current requirements.

Fire Alarm Systems

Background/Problems:
The Fire alarm system is a Gamewell Flexcamm 3.

Recommendation:
Replace fire alarm system with a Simplex system meeting current campus standards.

Master Clock Systems

Background/Problems:
The clock cabinet is indicated on 1987 drawings to be relocated to the new electrical room on the second floor. This cabinet could not be found in the second floor room. There are battery operated Seth Thomas clocks in the facility.

Recommendation:
Update or replace clock system to meet current requirements.

Public Address Systems

Background/Problems:
There is no public address system.

Recommendation:
Provide a public address system if needed.

cc:
rt: ES Box 352165
cn: Central file Path

The following building assessments have been made of Lewis Hall prior to the start of predesign. Copies are available upon request.

The UW Earthquake Readiness Advisory Committee Report of October 31, 1991 established priorities for the seismic retrofitting of major capital facilities based on seismic condition studies, damage potential and life safety hazard. Lewis Hall was ranked in the second highest priority category in terms of potential damage because of its poor structural conditions and in the category of moderate priority concern as a life safety hazard, because of the number of students, staff, and faculty it serves.

The 2006 University of Washington, Limited Hazardous Materials Survey Report-Lewis Hall Renovation reported that the crawl spaces are inaccessible until highly contaminated dirt is fully abated. The loose asbestos containing insulation filling many ceiling spaces should be fully removed. Peeling asbestos-containing paint, and other areas contaminated with deteriorated asbestos-containing exterior duct insulation, should be removed.

The March 2006 University of Washington Electrical System Audit of Lewis Hall indicated that all existing branch circuit panel boards need to be replaced along with replacement of existing antiquated distribution panels to provide adequate core electrical service. Many of the branch circuit panels and breakers are so old that parts are no longer available. The switching needs upgrading to comply with Seattle Energy Code. The fire alarm system does not match the UW campus standard Simplex system. Overhead lighting is outdated and inadequate, and should be replaced.

The June 2006 Facilities Condition Audit concluded that all of the major systems in Lewis Hall were in poor condition and required replacement. However, a replacement of just the building systems would be more costly than a total remodel of the building. Therefore, the most cost-effective approach to dealing with this significant component of UW deferred renewal is a full renovation of the building.

In *The 1995 Seismic Evaluation-Lewis Hall*, Chalker, Putnam, Collins, Scott, Consulting Structural Engineers stated “We judge that Lewis Hall does represent a potential life-safety hazard based on our evaluation.” The un-reinforced brick piers do not possess adequate shear strength capacity and the concrete frames are insufficiently reinforced and detailed for the resistance of seismic forces. The evaluation was based on methodology contained in the Federal Emergency Management Agency’s document FEMA-178, “NEHRP Handbook for the Seismic Evaluation of Existing Buildings.” The document provides seismic evaluation criteria that are expected to provide an acceptable level of life-safety improvements.

2008 Comparable Framework
Building Renewal, Repair, and Facility Improvements Summary
Lewis Hall

Category (Uniformat)	Description	Condition Score
Superstructure (A: Substructure)	Structural and seismic repairs: The structure is masonry perimeter bearing walls with wood post-and-beam floor and roof framing and was designed and constructed prior to the adoption of modern seismic codes.	4
Exterior (B: Shell)	Exterior repairs and renewal: The exterior masonry bearing walls are, multi-width brick construction supporting wood framed floors and roof. There are steep masonry gables with sandstone copings at both ends of the building and at the main entrance. The foundation is sandstone or faced with sandstone. The brick has been parged, painted and/or stained several times, however most of this finish has faded or peeled away. The sandstone foundation stone has suffered de-lamination over the years from water damage. The gable copings might not be pinned to the structure below and there does not appear to be any thru-wall flashing at the copings or at stone lintels and sills. The windows are original wood sash, single hung with single pane glazing. Frames and sash are in good condition but offer little energy efficiency. Replace original windows with energy efficient window units that are similar in appearance to original.	5
Roof & Envelope (B: Shell)	Repair and replace roofing and envelope: The roofing is three tab composition shingles on a steep sloped wood roof and is in poor condition. The gutters, flashing and downspouts are copper and also in poor condition.	5
Interior (C: Interior)	Carpet replacement, painting, ceilings replacement and repairs: The interior is a collection of original materials and a series of remodels. Many of the interior finishes may contain lead and/or asbestos. No part of this interior space with the possible exception of some interior doors is deemed acceptable for salvage.	4
Conveying Systems (C: Interior)	Elevator repairs and renewal: the building is a multi-story building without an elevator.	5
Mechanical Systems (B: Services)	Modernization, renewal, repair, and replacement of mechanical systems: plumbing and piping; and heating and ventilation. Domestic water main and system is	5

	galvanized steel and should be replaced. This building has limited mechanical ventilation and has reached the end of its useful life. The heating hot water converter and circulation pumps were installed around 1960 and the original perimeter radiators have reached the end of their useful life and should be replaced.	
Electrical Systems (B: Services)	Upgrade, renewal, repair, and replacement of electrical systems: main service; distribution system; and monitoring and control systems. The electrical service was upgraded in 1987, and is in good condition and may be re-used if the electrical load stays under the rating of the switchboard. If the load increase exceeds the rating, then the building transformer and exterior switchboard will need to be replaced. The conduit and wiring for the feeders to the panels were installed in 1987, it is recommended that insulation tests be performed and replace feeders as necessary. The emergency power comes from a tap ahead of the main this existing configuration does not comply with current Life Safety Codes and must be upgraded with a new feed.	3
Utilities and Site work (G: Sitework)	Improvements, renewal, repair, and replacement of utilities and site work: footing and drains; and storm and sanitary side sewers: The domestic water main piping material is galvanized steel and was installed in 1965 and should be replaced. The existing clay sanitary side sewer line should be replaced with a new from the building to the existing manhole. The storm drainage and foundation drainage are the original clay piping. The storm drainage connects to the combination sewer. A new storm drain line from the building to a new storm drain manhole to eliminate the combination sewer serving the building should be provided. The steam, and condensate, have been installed in a conduit or direct buried, such that the integrity of the buried piping should be evaluated and replaced if necessary.	4
	Building Condition Total	5

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

TACOMA - PHASE 3

AUGUST 15, 2008

Institution			**Agency Code**
University of Washington			360
Project Title		**Category of Project**	**Project Number**
UW Tacoma Phase 3		GROWTH	
County	**City**		**Legislative District**
Pierce	Tacoma		027
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
2007-09			
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	August 2007	December 2007
Design	June 2008	May 2010
Bid	GCCM Project Delivery	GCCM Project Delivery
Construction/Occupancy	December 2009	Fall Term 2011

2. Problem Statement (short description of the project – the needs and the benefits)

The University of Washington Tacoma is responsible for providing increased access to higher education for students in the South Puget Sound. A significant factor in this growth was the admission of freshmen in Fall 2006. This legislative decision challenged the University of Washington Tacoma to move from serving entirely a nontraditional, upper division/transfer and graduate student campus, to include traditional age, recent high school graduates. This required UW Tacoma to modify curriculum, expand student services, and modify classrooms and campus infrastructure to fit a change in mission.

In order to meet its access mission, the University of Washington Tacoma is expected to grow significantly in the next ten years. Campus enrollment from autumn 2008 to 2017 is expected to increase from 2,425 to 5,455 FTE. This is a 125% increase in enrollment using an 8 – 10% annual growth rate. If the Phase 3 project currently under design is not funded in the 2009-11 biennium, the campus is projected to operate with a space capacity shortfall of over 1,000 lecture stations.

The University of Washington's request for funding for construction of the UW Tacoma Phase 3 project which is integral to the University's capital plan of expanding facilities as needed to support new enrollments and programs. The proposed Phase 3 project will provide the space capacity to address the addition of 600 FTE students, faculty, and staff by providing critically needed classroom seats, faculty offices, a department suite, an expansion of the Library, meeting rooms and student study areas. A need also exists to supplement the inventory of science wet laboratories on the campus in Phase 3 through the renovation of three classrooms currently located in the Science Building. These classrooms will be converted to laboratory spaces to accommodate labs for physics, geology and chemistry.

The majority of current classroom inventory is in classrooms with 31 to 60 seats. With the introduction of freshmen and sophomores, larger classroom spaces will support introductory level lecture courses. The Phase 3 project adds to the existing classroom inventory by adding a large (86 seats) tiered classroom as well as 16 medium-sized classrooms (42 seats) that are configured to be easily converted to larger classrooms as required.

Library and programs space is critically needed to meet the needs of lower division students. In addition to stacks, staff and processing space, an expansion must include usable study spaces and collaborative learning spaces. The space analysis and working reality of the current Library facility confirms that insufficient space exists to meet the needs of users, staff, services and collections. Library collections, by their nature, grow continually. Because of the lack of expansion space, critical adjustments to date include the relocation of 20,000 volumes to closed stacks in the Library basement. Another 10,000 volumes from the main collection are planned for relocation to the same location. Student study space has been lost to additional shelving space needs.

3. History of the project or facility

In 1999, the Legislature appropriated funding for a predesign study for the University of Washington Tacoma. During the preparation of the study, it was decided that the UW Tacoma Master Plan should be updated prior to the completion of the predesign study. In 2003, the Master Plan was completed and approved by the UW's Board of Regents.

In the 2007-09 biennium, the legislature approved $6,150,000 for the predesign and design for Phase 3 of the University of Washington Tacoma campus. Since then, the University of Washington Tacoma has investigated various building options to meet the needs of the expanding campus. These options have focused on the appropriate classroom types and sizes and support spaces to serve the needs of lower division students. The project will include an adaptive reuse/renovation of the Russell T. Joy (Joy) Building, new construction on Jefferson Avenue and infrastructure upgrades to support the programmatic expansion.

The Joy Building renovation was identified as an important component in meeting campus expansion needs. This study evaluated a renovation to the existing structure, retaining the exterior walls while inserting a new interior structure, and adding a penthouse addition to the building. Analyses were also prepared for the Artist Lofts, Tacoma Biscuit and Candy Building and the Tioga Building. A 20,000 square foot addition to a renovated Tioga Building was studied and a new 40,000 square foot building was considered (the Jefferson Avenue Building). Options included investigating cost, functional efficiency, program adjacencies with other campus buildings and departments, flexibility, and overall design integrity. It was determined that, based on current information, the most cost-effective solution that would meet the developing program needs is a combination of options: an adaptive reuse/renovation of the Joy Building, a new 40,000 square foot building located on Jefferson Avenue south of the Tioga Building, the conversion of three classrooms to wet labs in the existing Science Building, and related campus infrastructure improvements.

The Joy Building is a three-story historic masonry structure which was constructed in 1892, with heavy timber columns, beam and floor, and is located north of UW Tacoma's West Coast Grocery Building on Pacific Avenue in the Union Depot/Warehouse Special Review District. The approximately 47,700 square foot building is currently unoccupied. An adaptive-reuse renovation is considered more practical, sustainable and cost effective than demolition and new construction.

A new 40,000 square foot four-story building is proposed to be located on Jefferson Avenue, south of the Tioga Building and across Hood Street from the existing Library. This site is partially used as a University-owned surface parking lot.

The University has identified three existing classrooms in the Science Building to be converted to wet labs to help support short-term science program expansion. To accommodate anticipated campus growth needs, two out of the three classrooms were originally built for intended conversion to labs, and some of the needed infrastructure is already in place.

The Tacoma Phase 3 expansion project will support the goals identified in the Campus Master Plan:

- To honor the stature of the campus
- To ensure good stewardship of the existing campus, maintaining and protecting the value of UW Tacoma's physical resources and character, history and open space. Changes to the campus should improve and enhance the value and quality of the campus, encouraging preservation of historic resources.
    - The Joy Building renovation would revitalize an unused historic structure along the most public face of the UW Tacoma campus. The addition of a building along Jefferson Avenue would begin the growth of the campus to the west and provide a central position for the future campus's library expansion.

- To provide for the facility and infrastructure needs for decades to come.
    - These two buildings will accommodate an additional FTE of 600 students. Infrastructure needs for both buildings are included in the project.

- To provide the maximum amount of flexibility in order to best accommodate future growth and take advantage of unforeseen opportunities.
    - The renovation of the Joy Building would be designed to allow maximum flexibility for future reconfiguration. A raised access floor would be considered for the second and third floors. This would facilitate room reconfiguration. The new Jefferson Street building would be designed for maximum flexibility since it might likely have a change of occupancy in the next decade.

- To create an aesthetic quality appropriate to the campus as a whole, the campus should conserve and improve existing buildings, open spaces and views on campus, and look for opportunities to create additional open spaces.
    - The Joy Building is an unused historic structure that would benefit from a major renovation. Adding a building along Jefferson Avenue would increase this retail street's building density and allow for future open spaces to be enhanced for the UW Tacoma community.

- To ensure access to and within campus, maximizing non-vehicular travel, emphasizing universal access pedestrian routes, and promoting the design of environments usable by all people, to the greatest extent possible.
    - Both buildings would be located in the campus core allowing for easy pedestrian and bicycle movement between classes.

- To help create a safe and healthy environment with personal and workplace safety considerations integral to planning and design of circulation elements, buildings and open spaces.
    - Increasing the density in the campus core would increase safety in the area. Each of the buildings would have an anchor tenant who would have a presence during operating hours. The buildings would also provide casual student study space.

- To value the environment and strive to promote sustainability.
    - At a minimum both projects would be designed to Leadership in Energy and Environmental Design (LEED) Silver certification.

- To encourage efficiency and economy in campus operations, with advantageous locations for facilities and advantageous adjacencies of uses.
    - The Joy Building would be connected to the adjacent West Coast Grocery Academic Building. This will facilitate shared use of the spaces in each building. The Jefferson Avenue Building would be flexible space that would accommodate both a Library expansion and faculty offices. In the future, given the adjacency to the UW Tacoma Library, this building may serve as an expansion space as the Library grows.

- To recognize the importance of the surrounding communities and strive to achieve compatible working relationships with these communities to improve the quality of life and public benefits for all in the vicinity.
    - The Joy Building would enhance the retail corridor along Pacific Avenue by providing approximately 200 lineal feet of store front.

4. University programs addressed or encompassed by the project

Additional space is needed to provide teaching, learning and support space for 600 additional student FTE. Given the projected shortfall of classrooms, the campus cannot accommodate the expansion of academic programs or new programs. The Phase 3 expansion is necessary to provide for critically needed general lecture classrooms and seminar rooms as well as to supplement the inventory of science wet laboratories for physics, geology, and chemistry. The University of Washington Tacoma is poised to add additional FTE in areas of critical state need, such as environmental engineering, nursing, pre-health sciences, information technology and science/math education. This growth could represent approximately one-half of the campus' anticipated growth over the next several years.

The inventory of current facilities cannot meet the projected station space capacity requirements and cannot be renovated to support enrollment growth and program development. The construction of these new facilities will ensure that the expansion of UW Tacoma programs meets the needs of the residents of the State of Washington.

This project will also provide additional library space to support the growth in new academic programs. Campus infrastructure improvements may include a campus centralized heating and cooling system approach and associated utility distribution systems for new facilities.

The Joy Building's configuration is suitable for providing classrooms with up to 50 seats each and a larger tiered classroom with a limited structural reconfiguration. A department office and meeting rooms are also proposed in the building. The Pacific Avenue level may be developed to provide some retail space as committed by UW Tacoma to serve the community's commercial needs for the City of Tacoma.

The Jefferson Avenue Building will house an expansion of library functions on the first and second floors of the Jefferson Avenue Building, including a learning commons and library support operations. A small retail area will also be located on the entry level along Jefferson Avenue. As the campus grows to the west, this building will serve the growing needs of the library. Faculty and administrative support offices and meeting rooms are planned on the top two floors and consideration will be given to enabling future expansion of this building to the south.

Three classrooms in the existing Science Building were identified for conversion to wet labs for undergraduate science program use. Two out of the three classrooms were originally built for ultimate conversion to labs and some of the needed infrastructure is already in place.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

Legislation requiring UW Tacoma to serve freshman and sophomore students changes the type of classroom needed on this dense, urban campus. Upper division classes are generally smaller in size and more intense in nature. The UW Tacoma was originally planned for an exclusively two plus two model with the community colleges. Thus, UW Tacoma initially only had smaller classrooms and labs. However, the introduction of freshman and sophomore students onto the Tacoma campus will now mean larger classrooms, as well as additional library space. This will be a critical ingredient to the UW Tacoma's Phase 3 in campus expansion to serve more students.

- **Increases the number of bachelor's degrees awarded (600 FTE)**
- **Increases the number of high-demand fields (300 FTE)**
- **Increases number of advanced degrees awarded**
- **Promotes access for underserved regions and placebound adults**
- **Economic development & innovation**

As an urban campus created to meet the needs of placebound adults in Pierce County, UW Tacoma must continue to grow its impressive enrollments through the construction of additional buildings or the renovation/replacement of existing buildings. The research, education, students, faculty and staff ensure economic development with innovation at the center. Serving students from their initial year in higher education throughout their entire college experience will ultimately lead to more students entering the University and graduating from it. This is a laudable goal that can be accomplished with more classrooms housing more students.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Wireless communications throughout the building(s) will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The proposed project is consistent with the 2008 *UW Tacoma Campus Master Plan* Master Plan. A copy of the current Master Plan can be downloaded from: http://www.tacoma.washington.edu/chancellor/masterplan/overview.html.
The building will address the following Master Plan guiding principals:

- Access to an exceptional university education;
- An interdisciplinary approach to knowledge and discovery in the 21st century;
- A strong and mutually supportive relationship between the campus and its surrounding communities.

The building will address the following Master Plan goals:

- Enhance and develop the campus;
- Provide access to an exceptional university education;
- Connect knowledge across disciplines;
- Create bonds with the community;
- Support diversity.

(b) Campus Facilities Plan

This predesign project will determine the value of a centralized utility plan relative to other solutions for this and future projects. Life cycle costs studies will be used in the decision making process. Consideration will be given to long-term environmental and global warming impacts of various alternatives. If recommended, the analysis will investigate potential sites.

(c) Strategic Plan

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for predesign funding for UW Tacoma Phase 3 is consistent with several of the University of Washington overarching core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - This proposal supports the legislatively directed student growth goals with state of the art classrooms, teaching labs and support spaces.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - UW Tacoma Phase 3 will provide instructional spaces for collaboration and interaction.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
  - Enhancing the local community and economy with facilities and educational services has been a priority since the inception of UW Tacoma. Phase 3 continues and expands access to the high quality education which is a cornerstone of preparing students to succeed in a global economy.
- Maintain and build resources, infrastructure, and facilities to ensure the highest level of integrity, compliance and stewardship.
  - The project will at least meet LEED Silver requirements for sustainability.
  - The predesign scope includes an analysis of infrastructure, particularly central plant options, needed to support Phase 3 goals and beyond.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

UW Tacoma Phase 3 is the fifth priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and is our first priority in the Growth category.

7. 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.

These two buildings will accommodate an additional FTE of **600 students**.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields, as defined by the HECB, and the particular fields in which such growth is expected to occur.

Fifty percent or **300 FTE** are expected in high demand fields.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

The University of Washington Tacoma exceeded the HECB utilization standards for classrooms for Autumn Quarter 2007. For classrooms, the use factor was 25 which is equivalent to an average of 41 hours of instruction each week. Based on the available data from the central student database time schedule, class laboratories did not meet the HECB use standard.

Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added so utilization should increase for classrooms and class laboratories.

b. 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 institution's plans for achieving that level of utilization.

Within the next ten years, the University of Washington Tacoma is projected to more than double its FTE enrollment. With an annual growth rate of approximately 8 - 10 % during the next ten years, the campus fully expects to meet the established HECB standards. The expected growth over the same period represents an increase of over 3,000 FTE.

The University of Washington Tacoma's accelerated growth will include the expansion of academic programs or new degrees in all program areas. For example, the sciences plan to expand in areas that require traditional laboratory space, e.g. microbiology, biochemistry and chemistry. With the addition of 600 FTE enrollments in Phase 3, the campus anticipates that approximately half of the FTE growth could likely be in high demand program areas. Currently, the campus lacks adequate facilities (classrooms and labs) to meet the projected enrollment increases.

Attached is the University of Washington utilization report.

9. 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.

All classrooms, instructional labs, offices spaces in the proposed project will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility:	53,261 ASF
(b) Gross square feet (GSF):	87,369 GSF
(c) Net building efficiency (ASF divided GSF):	61%

10. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The following project comparisons were included because of their comparable scope of work, which includes classrooms, lecture hall, student support space, library expansion and/or administration areas. The first two projects represented below are renovations already taken/taking place in Tacoma on the University of Washington campus. Page Hall (location factor of 93.9) was increased by 111.0% for location adjustments. Page Hall scope of work consisted of 4 stories totaling 59,370 gsf with 45% office, 20% classroom, 9% computer lab, and 26% other. The project at Washington State was increased by 108.8% due to a location rate of 95.8 (Spokane) to Seattle (104.2). The Smith Center houses 17 classrooms and 2 auditorium style classrooms, supported by state of the art audio-visual technologies. A student computer lab and departmental areas are also included. The Shock Physics Building consists of 15% lab, 17% wet lab, 48% support area and 20% other. The ACES Library consists of computer instructional labs, support areas, collections area, as well as an alumni center and career center. The location rate for Champaign is 99.9 giving the geographic index a 104.3% increase. These location factors are based on RS Means Facilities Construction Cost Data 2006.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Tacoma Ph 3	University of Washington, Tacoma, WA	87,736	$60,150,000	$685.58	July 2011	8.3%	$742.48
Tacoma Ph 2	University of Washington, Tacoma, WA	133,000	$44,349,000	$333.45	Dec 2003	55.4%	$518.18

Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept, 2004	46.2%	$898.25
Smith Center	Washington State University, Pullman, WA	102,050	$45,238,226	$443.29	Oct. 2001	62.9%	$722.12
Shock Physics Building	Washington State University, Pullman, WA	33,330	$13,369,095	$401.11	Jan 2003	59%	$637.77
Building 160	Stanford University Palo Alto, CA	71,400	$26,558,879	$371.97	Jun 2002	57.8%	$586.97

Construction Delivery method: The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team make the most cost-effective decisions concerning the configuration of the construction staging area and methods of construction where the new building (Jefferson Ave. Bldg.) connects to the adjacent building (Tioga Bldg.). The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

11. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	31,969	71%
Student Advising/Counseling Services	0	0%
Childcare	0	0%
Faculty offices	5,180	12%
Administrative	8,078	18%
Maintenance/Central Stores/Student Center	0	0%
Total	45,227	100%

In addition to the space described above, the project includes 8,034 square feet of retail space to contribute to the vitality of the wider urban community.

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20082005**
Project Title: **UW Tacoma Phase 3**

Description

Starting Fiscal Year: 2008
Project Class: Program
Agency Priority: 7

Project Summary

This is a re-appropriation request and a request for 2009-2011 state construction funding of $54,000,000 for UW Tacoma Phase 3. The continued development will include the addition of a fourth floor and major renovation of the Joy Building to provide additional classroom and faculty office space to support expanded and new degree programs and will serve to transition the campus toward the new 4-year curriculum. The project scope will include renovation of all major building components as well as an expanded footprint and the addition of a fourth story to provide a total of approximately 70,000 gross square feet of program space. The goal of the project will be to provide new capacity to accommodate at least 600 additional student FTE's. Phase 3 will include major renovation of the Joy Building and an addition of a fourth floor to provide a total of approximately 70,000 GSF of academic space. This continued phased development will move toward achieving a "critical mass" size for the Tacoma campus to meet the needs of a comprehensive 4-year institution and enable efficiencies of scale and operations

Project Description

This is a re-appropriation request and a request for 2009-2011 state construction funding of $54,000,000 for UW Tacoma Phase 3. The continued development will include the addition of a fourth floor and major renovation of the Joy Building to provide additional classroom and faculty office space to support expanded and new degree programs and will serve to transition the campus toward the new 4-year curriculum. The project scope will include renovation of all major building components as well as an expanded footprint and the addition of a fourth story to provide a total of approximately 70,000 gross square feet of program space. The goal of the project will be to provide new capacity to accommodate at least 600 additional student FTE's. Phase 3 will include major renovation of the Joy Building and an addition of a fourth floor to provide a total of approximately 70,000 GSF of academic space. This continued phased development will move toward achieving a "critical mass" size for the Tacoma campus to meet the needs of a comprehensive 4-year institution and enable efficiencies of scale and operations. The estimated total project budget is $60,150,000.

Location

City: Tacoma
County: Pierce
Legislative District: 027

Project Type

New Facilities/Additions (Major Projects)

Growth Management Impacts

See GMA Questionaire

New Facility: No

How does this fit in master plan

Yes. See Master Plan link in GMA Questionaire.

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	62,305,096		4,305,096	4,000,000	54,000,000

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20082005**
Project Title: **UW Tacoma Phase 3**

Funding

Total	**62,305,096**	**0**	**4,305,096**	**4,000,000**	**54,000,000**

	Future Fiscal Periods			
	2011-13	**2013-15**	**2015-17**	**2017-19**
057-1 State Bldg Constr-State				
Total	**0**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	**End Date**
Predesign	01/01/2007	12/01/2007
Design	4/1/2008	2/1/2010
Construction	12/1/2009	7/1/2011

	Total
Gross Square Feet:	87,736
Usable Square Feet:	72,069
Efficiency:	82.1%
Escalated MACC Cost per Sq. Ft.:	355
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.62%

Cost Summary

		Escalated Cost	**% of Project**
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		150,000	0.3%
Construction Documents		1,749,803	2.9%
Extra Services		2,191,604	3.6%
Other Services		2,039,852	3.4%
Design Services Contingency		889,473	1.5%
Consultant Services Total		**7,020,732**	**11.7%**
Maximum Allowable Construction Cost(MACC)	**31,111,886**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		31,111,886	51.7%
GCCM Risk Contingency		810,329	1.4%
GCCM or Design Build Costs		4,160,624	6.9%
Construction Contingencies		4,666,783	7.8%

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20082005
Project Title: UW Tacoma Phase 3

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Non Taxable Items	0	0.0%
Sales Tax	3,667,466	6.1%
Construction Contracts Total	**44,417,088**	**73.8%**
Equipment		
Equipment	3,884,400	6.5%
Non Taxable Items	0	0.0%
Sales Tax	349,596	0.6%
Equipment Total	**4,233,996**	**7.0%**
Art Work Total	**155,559**	**0.3%**
Other Costs Total	**1,140,936**	**1.9%**
Project Management Total	**3,181,689**	**5.3%**
Grand Total Escalated Costs	**60,150,000**	
Rounded Grand Total Escalated Costs	**60,150,000**	

Operating Impacts

No Operating Impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	35	**Report Number:**	CBS003
Cost Estimate Title:	Tacoma Ph 3	**Date Run:**	8/13/2008 8:38AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20082005		
Project Title:	UW Tacoma Phase 3		
Project Phase Title:			

Contact Info **Contact Name:** Catherine Vogt **Contact Number:** 206.685.2190

Statistics

Gross Sq. Ft.:	87,736
Usable Sq. Ft.:	72,069
Space Efficiency:	82%
MACC Cost per Sq. Ft.:	329
Escalated MACC Cost per Sq. Ft.:	355
Remodel?	Yes
Construction Type:	College Classroom Facilities
A/E Fee Class:	B
A/E Fee Percentage:	8.62%

Schedule

	Start Date	End Date
Predesign:	01-2007	12-2007
Design:	04-2008	02-2010
Construction:	12-2009	07-2011
Duration of Construction (Months):	19	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		150,000	
Construction Documents		1,749,803	
Extra Services		2,191,604	
Other Services		2,039,852	
Design Services Contingency		889,473	
Consultant Services Total			**7,020,732**
Site work		0	
Related Project Costs		0	
Facility Construction		31,111,886	
Construction Contingencies		4,666,783	
Non Taxable Items		0	
Sales Tax		3,667,466	
Construction Contracts Total			**44,417,088**
Maximum Allowable Construction Cost(MACC)	**31,111,886**		
Equipment		3,884,400	
Non Taxable Items		0	
Sales Tax		349,596	
Equipment Total			**4,233,996**
Art Work Total			**155,559**
Other Costs Total			**1,140,936**
Project Management Total			**3,181,689**
Grand Total Escalated Costs			**60,150,000**
Rounded Grand Total Escalated Costs			**60,150,000**

Additional Details

Alternative Public Works Project:	Yes

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	35	**Report Number:**	CBS003
Cost Estimate Title:	Tacoma Ph 3	**Date Run:**	8/13/2008 8:38AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20082005		
Project Title:	UW Tacoma Phase 3		
Project Phase Title:			

Contact Info **Contact Name:** Catherine Vogt **Contact Number:** 206.685.2190

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail

2009-11 Biennium

Cost Estimate Number: 35

Analysis Date: July 31, 2008

Cost Estimate Title: Tacoma Ph 3

Detail Title: Tacoma Ph 3
Project Number: 20082005
Project Title: UW Tacoma Phase 3
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Catherine Vogt **Contact Number:** 206.685.2190

Statistics

Gross Sq. Ft.:	87,736
Usable Sq. Ft.:	72,069
Rentable Sq. Ft.:	
Space Efficiency:	82%
Escalated MACC Cost per Sq. Ft.:	355
Escalated Cost per S. F. Explanation	
Construction Type:	College Classroom Facilities
Remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.62%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule	Start Date	End Date
Predesign:	01-2007	12-2007
Design:	04-2008	02-2010
Construction:	12-2009	07-2011
Duration of Construction (Months):	19	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 28,834,000
MACC (Escalated):	$ 31,111,886
Current Project Total:	$ 56,240,743
Rounded Current Project Total:	$ 56,241,000
Escalated Project Total:	$ 60,150,000
Rounded Escalated Project Total:	$ 60,150,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	150,000			
SubTotal: Pre-Schematic Design Services		**150,000**	1.0000	**150,000**
Construction Documents				
A/E Basic Design Services	1,714,989			
SubTotal: Construction Documents		**1,714,989**	1.0203	**1,749,803**
Extra Services				
Civil Design (Above Basic Services)	140,000			
Geotechnical Investigation	290,000			
Commissioning (Systems Check)	75,000			
Site Survey	30,000			
Testing	200,000			
Leadership Energy & Environment Design List(LEED)	235,000			
Voice/Data Consultant	40,000			
Constructability Review Participation	100,000			
Environmental Mitigation Services (EIS)	120,000			
Landscape Consultant	125,000			
Acoustical Consultant	50,000			
Haz Mat Consultant	30,000			
Elevator Consultant	25,000			
Graphics	25,000			
Interior Design	280,000			
Specialty Consultants	100,000			
Phasing/Early Bid Packages	60,000			
Electronic AudioVisual	50,000			
Reimbursables/Doc Repro	100,000			
Other	73,000			
SubTotal: Extra Services		**2,148,000**	1.0203	**2,191,604**
Other Services				
Bid/Construction/Closeout	770,502			
HVAC Balancing	200,000			
Constuction Support, Misc	360,000			
On-site Representative	560,000			
SubTotal: Other Services		**1,890,502**	1.0790	**2,039,852**
Design Services Contingency				
Design Services Contingency	590,349			
Change Order Design Allowance	234,000			
SubTotal: Design Services Contingency		**824,349**	1.0790	**889,473**
Total: Consultant Services		**6,727,840**	1.0435	**7,020,732**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	27,780,000			
Additional Escalation	1,054,000			
SubTotal: Facility Construction		**28,834,000**	1.0790	**31,111,886**
Maximum Allowable Construction Cost (MACC)		**28,834,000**	1.0800	**31,111,886**
GCCM Risk Contingency				
GCCM Risk Contingency	751,000			
SubTotal: GCCM Risk Contingency		**751,000**	1.0790	**810,329**
GCCM or Design Build Costs				
GCCM Fee	1,418,000			
Bid General Conditions	1,413,000			
GCCM Preconstruction Services	350,000			

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
Construction Support Services	675,000			
SubTotal: GCCM or Design Build Costs		**3,856,000**	1.0790	**4,160,624**
Construction Contingencies				
Management Reserve	1,441,700			
Allowance for Change Orders	2,883,400			
SubTotal: Construction Contingencies		**4,325,100**	1.0790	**4,666,783**
Sales Tax		**3,398,949**	1.0790	**3,667,466**
Total: Construction Contracts		**41,165,049**	1.0790	**44,417,088**
EQUIPMENT				
E10 - Equipment	1,600,000			
E20 - Furnishings	2,000,000			
SubTotal:		**3,600,000**	1.0790	**3,884,400**
Sales Tax		**324,000**	1.0790	**349,596**
Total: Equipment		**3,924,000**	1.0790	**4,233,996**
ART WORK				
Total: Art Work		**155,559**	1.0000	**155,559**
OTHER COSTS				
Permit, Insurance, Connectivity	1,086,606			
Total: Other Costs		**1,086,606**	1.0500	**1,140,936**
PROJECT MANAGEMENT				
Agency Project Management	2,772,689			
Contract Construction Management	359,000			
Preactive PM Fees	50,000			
Total: Project Management		**3,181,689**	1.0000	**3,181,689**

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Cost Estimate Summary and Detail

2009-11 Biennium

*

Cost Estimate Number: 35
Cost Estimate Title: Tacoma Ph 3

Report Number: CBS003
Date Run: 8/13/2008 8:38AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20082005	20082005
Cost Estimate Number	35	35
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

TACOMA – PHASE 4

AUGUST 15, 2008

Institution			**Agency Code**
University of Washington			360
Project Title		**Category of Project**	**Project Number**
UW Tacoma Phase 4		GROWTH	20102002
County	**City**		**Legislative District**
Pierce	Tacoma		027
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
2007-09			20102002
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	July 2009	February 2009
Design	July 2011	January 2013
Bid	GCCM Project Delivery	GCCM Project Delivery
Construction/Occupancy	September 2013	February 2015

2. Problem Statement (short description of the project – the needs and the benefits)

The University of Washington Tacoma is responsible for providing increased access to higher education for students in the South Puget Sound. A significant factor in this growth was the admission of freshmen in Fall 2006. This legislative decision challenged UW Tacoma to move from serving entirely a nontraditional, upper division/transfer and graduate student campus, to include traditional age, recent high school graduates. This required UW Tacoma to modify curriculum, expand student services, and modify classrooms and campus infrastructure to fit a change in mission.

In order to meet its access mission, UW Tacoma is expected to grow significantly in the next ten years. Campus enrollment growth from autumn 2008 to 2017 is expected to increase from 2,425 to 5,455 FTE. This is a 125% increase in enrollment using an 8 – 10% annual growth rate. Assuming the Phase 3 project currently under design is completed for occupancy by autumn 2011, the campus will still operate with a space capacity shortfall of over 1,500 lecture stations by autumn 2015, if the Phase 4 project does not come online in FY 2016.

The University of Washington’s request for funding to complete the predesign study for Tacoma Phase 4 is integral to the capital goal of expanding facilities as needed to support new enrollments and programs. The proposed Tacoma Phase 4 will address the addition of 600 FTE students, faculty, and staff by providing needed academic and student support space to sustain expanded and new degree programs and work to transition the campus toward a comprehensive four-year institution.

Moving forward with the predesign for the next phase of development of the Tacoma campus in 2009-2011 will allow UW Tacoma to complete design in 2011-2013 and construction in 2013-15 for anticipated occupancy in autumn 2015. The Tacoma Phase 4 project and future phases will need to consider and respond to UW Tacoma's evolving institutional directions and its mission as a comprehensive four-year institution.

In addition, a centralized heating and cooling system approach does not currently exist on the Tacoma campus. This project will also investigate options for the development of a potential central plant and associated utility distribution systems to service this phase of the project in addition to compatibility with existing and future facilities. Site program analysis, space requirement testing and cost model evaluation will contribute to a comprehensive understanding of project objectives and needs.

Design opportunities and features will be explored that support sustainable approaches that potentially include: aggressive energy efficiency goals for future buildings, reduction of carbon footprint and a goal of carbon negative use of carbon neutral fuel sources, use of alternative fuels/renewable energy (wind, biofuels, thermal) and lower life cycle costs. By setting goals that support a sustainable approach for campus infrastructure, the campus holds the potential to significantly reduce energy consumption and energy costs long-term.

3. History of the project or facility

The project includes two major components:

A. Academic Facilities to Support Enrollment Growth

The campus total space inventory includes approximately 428,000 gross square feet (gsf). Based on the current master planning activities underway, the campus requires about 1.7M gsf total academic use square footage to support a full build-out of 10,000 FTE; to serve 5,000 FTE, the campus requires approximately 900,000 gsf. To meet the 10-year growth plan the campus will, therefore, need to add approximately 472,000 gsf. The Phase 4 project will add a portion of the additional space required.

The predesign planning of Tacoma Phase 4 represents a significant and initial expansion to the west of a major street (Market Street) that physically divides in half the 46 acre footprint of the campus master plan footprint. The acreage to the west of Market Street is not currently developed for University purposes except for an existing small structure that was converted to student services uses.

Conceptual need based on the December 2007 Phase 3 predesign study suggests that the next phase of growth should include the following:

Academic Building – This building may take one of two forms:

1. Adaptive reuse/renovation of the Tacoma Biscuit and Candy (Spaghetti Factory) with 40,000 gsf; and new construction 45,000 gsf; or,
2. New construction at 105,000 GSF (estimated) for academic/library building. (Note that the best option will be determined in the predesign process).

B. Infrastructure

Utility Plant and Site Improvements – This component includes the first phase development of a new centralized heating and cooling system approach and potential extension of the existing utility connection system. General site improvements and landscaping will include retaining wall and site feature construction, pedestrian ramp(s) and walkway paving, landscape planting, irrigation and site lighting.

The original 1993 UW Tacoma Campus Master Plan and associated 2000 UW Tacoma Infrastructure Master Plan were developed to support the early build-out of the Tacoma campus and the vision for its future growth. The 2000 Infrastructure Master Plan recommended that a central plant and utility tunnel should begin in 2002 to support Tacoma Phase 2b (completed in 2004) development and to begin integrating mechanical, power and communications infrastructure, but was deferred to the Tacoma Phase 3 expansion. However, this scope was not included as part of Tacoma Phase 3 final scope to accommodate more critically needed academic program expansion space.

With the beginning of the development of the western half of the campus, this predesign project intends to explore the benefits that a centralized utility plan will leverage for this and future projects. Potential sites for a plant, if recommended, will be evaluated. The predesign will evaluate operational and functional cost models for the various infrastructure options.

4. University programs addressed or encompassed by the project

Additional space is needed to provide teaching, learning and support space for 600 additional student FTEs. Given the projected shortfall of classrooms, the campus cannot accommodate the expansion of academic programs or new programs. The Tacoma Phase 4 is critical to provide:

- General lecture classrooms and seminar rooms;
- Specialized science facilities that can accommodate new and expanded science curriculum. These may include a variety of traditional and non-traditional labs and systems to support study in microbiology, biochemistry, and psychology along with chemistry lab classrooms, multiple purpose science classrooms and associated support areas;
- Art facilities to support new and expanded art curriculum;
- Computer science facilities including student and research labs; and
- Clinical nursing facilities.

The inventory of current facilities cannot meet the projected station space capacity requirements and cannot be renovated to support enrollment growth and program development. The construction of these new facilities will ensure that the expansion of UW Tacoma programs meets the needs of the residents of the State of Washington.

This facility will also provide additional library space to support the growth in new academic programs. Campus infrastructure improvements may include a campus centralized heating and cooling system approach and associated utility distribution systems for new facilities.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

The expansion of the western half of the UW Tacoma campus is the focus of Phase 4. UW Tacoma must continue to grow its enrollments through the construction of additional buildings or the renovation/replacement of existing buildings.

- **Increases the number of bachelor’s degrees awarded (600 FTE)**

- **Increases the number of high-demand fields (300 FTE)**
- **Increases number of advanced degrees awarded**
- **Promotes access for underserved regions and placebound adults**
- **Economic development & innovation**

General lecture halls, specialized science facilities for more students enrolled in areas of critical state need, computer science, research labs, and clinical nursing facilities are all part of planning for Phase 4. In order to continue to meet the educational needs of the region and placebound adults, UW Tacoma must experience significant enrollment growth and this will occur primarily with the expansion of its facilities. In turn, more undergraduate and graduate students will obtain degrees in all fields, but especially areas of critical state need, e.g., science. All of this will spur evolving economic development for Tacoma and Pierce County well into the next decade.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Wireless communications throughout the building(s) will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,

The proposed project is consistent with the 2008 *UW Tacoma Campus Master Plan* Master Plan. A copy of the current Master Plan can be downloaded from:
http://www.tacoma.washington.edu/chancellor/masterplan/overview.html
The building will address the following master plan guiding principals:

- Access to an exceptional university education;
- An interdisciplinary approach to knowledge and discovery in the 21st century; and
- A strong and mutually supportive relationship between the campus and its surrounding communities.

and the following Master Plan goals:

- Enhance and Develop the Campus
- Provide Access to an Exceptional University Education
- Connect Knowledge Across Disciplines
- Create Bonds with the Community
- Support Diversity

(b) Campus Facilities Plan, and

This predesign project will determine the value of a centralized utility plan relative to other solutions for this and future projects. Life cycle costs studies will be used in the decision making process. Consideration will be given to long term environmental and global warming impacts of various alternatives. If recommended, the analysis will investigate potential sites.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State.

The University of Washington's request for predesign funding for Tacoma Phase 4 is consistent with several of the University of Washington overarching core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - This proposal supports the legislatively directed student growth goals with state of the art classrooms, teaching labs and support spaces.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - Tacoma Phase 4 will provide instructional spaces for collaboration and interaction.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
  - Enhancing the local community and economy with facilities and educational services has been a priority since the inception of UW Tacoma. Phase 4 continues and expands access to the high quality education which is a cornerstone of preparing students to succeed in a global economy.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - At a minimum, the project will meet Leadership in Energy and Environmental Design (LEED) Silver requirements for sustainability.
  - The predesign scope includes an analysis of infrastructure, particularly central plant options, needed to support Phase 4 goals and beyond.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

Tacoma Phase 4 is the sixth priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and is our second priority in the Growth category.

7. 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 proposed Phase 4 will address the addition of **600 FTE students**. This growth could represent approximately one-half of the campus' anticipated growth over the next several years.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields, as defined by the HECB, and the particular fields in which such growth is expected to occur.

UW Tacoma is poised to add 50% or 300 FTE students in additional high demand areas such as environmental engineering, nursing, pre-health sciences, information technology and science/math education, quantitative analysis and environmental science.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

UW Tacoma exceeded the HECB utilization standards for classrooms for Autumn Quarter 2007. For classrooms, the use factor was 25 which is equivalent to an average of 41 hours of instruction each week. Based on the available data from the central student database time schedule, class laboratories did not meet the HECB use standard.

Autumn Quarter 2008 enrollment will increase so utilization should increase for classrooms and class laboratories.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

Within the next ten years, UW Tacoma is projected to more than double its FTE enrollment. With an annual growth rate of approximately 8 - 10 % during the next ten years, the campus fully expects to meet the established HECB standards. The expected growth over the same period represents an increase of over 3,000 FTE.

UW Tacoma's accelerated growth will include the expansion of academic programs or new degrees in all program areas. For example, the sciences plan to expand in areas that require traditional laboratory space, e.g., microbiology, biochemistry and chemistry. With the addition of 600 FTE enrollment in Phase 4, the campus anticipates that approximately half of the FTE growth could likely be in high demand program areas. Currently, the campus lacks adequate facilities (classrooms and labs) to meet the projected enrollment increases.

Attached is the University of Washington utilization report.

9. 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.

Space allocations will be consistent with Facility Evaluation and Planning Guide (FEPG) assignable square feet standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility;

63,000 (all new const option.)

(b) Gross square feet (GSF);

105,000 gsf

(c) Net building efficiency (ASF divided GSF).

60%

10. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The following project comparisons were included because of their comparable scope of work, which includes classrooms, lecture hall, student support space, library expansion and/or administration areas. The first two projects represented below are renovations already taken/taking place in Tacoma on the University of Washington campus. Page Hall (location factor of 93.9) was increased by 111.0% for location adjustments. Page Hall scope of work consisted of 4 stories totaling 59,370 gsf with 45% offices, 20% classrooms, 9% computer lab, and 26% other. The projects at Washington State was increased by 108.8% due a location rate of 95.8 (Spokane) to Seattle (104.2). The Smith Center houses 17 classrooms and 2 auditorium style classrooms, supported by state of the art audio-visual technologies. A student computer lab and departmental areas are also included. The Shock Physics Building consists of 15% lab, 17% wet labs, 48% support area and 20% other. The Building 160 at Stanford is a renovation that consists of 49% classroom, 48% office and 4% café. The project at Stanford was adjusted by 90.5% to accommodate the Palo Alto (115.1 location factor) to Seattle (104.2).

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Tacoma Ph 4	University of Washington, Tacoma, WA	105,000 infrastructure	$70,350,000 $9,650,000*	$670.00	Jul 2013	0%	$670.00
Tacoma Ph 2	University of Washington, Tacoma, WA	133,000	$44,349,000	$333.45	Dec 2003	55.4%	$518.18
Tacoma Ph 3	University of Washington, Tacoma, WA	87,736	$60,150,000	$685.58	July 2011	8.3%	$742.48
Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept, 2004	46.2%	$898.25

Smith Center	Washington State University, Pullman, WA	102,050	$45,238,226	$443.29	Oct. 2001	62.9%	$722.12
Shock Physics Building	Washington State University, Pullman, WA	33,330	$13,369,095	$401.11	Jan 2003	59%	$637.77
Building 160	Stanford University Palo Alto, CA	71,400	$26,558,879	$371.97	Jun 2002	57.8%	$586.97

*These estimates will be reviewed and updated in the predesign process.

Construction Delivery method: The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions regarding the configuration of the construction staging area and methods of construction. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

11. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	45,360	72%
Student Advising/Counseling Services	0	-
Childcare	0	-
Faculty offices	6,930	11%
Administrative	10,710	17%
Maintenance/Central Stores/Student Center	0	-
Total	63,000	100%

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20102002
Project Title: UW Tacoma Phase 4

Description

Starting Fiscal Year: 2010
Project Class: Program
Agency Priority: 8

Project Summary

In 2009-2011, the University of Washington is requesting state funding of $500,000 for the pre-design study of UW Tacoma Phase IV. The projected additional growth at UW Tacoma will necessitate continued development of the campus towards a "critical mass" size for efficiency in academic program development and overall operations. The program for Phase 4 facilities at UW Tacoma may include a mix of uses such as instructional spaces (e.g. classrooms, lecture halls, seminar rooms, computer labs, and class labs), faculty offices, parking and physical plant infrastructure, and other spaces as needed to meet the functional requirements of planned capacity and program growth.

Project Description

In 2009-2011, the University of Washington is requesting State funds of $500,000 for a UW Tacoma Phase 4 pre-design study. Additional phases of development are required at the growing Tacoma campus in order to achieve long range capacity and program goals of the State and the University of Washington. State funding will be requested for the design phase in 2011-13, and for the construction phase in 2013-15.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

See Growth Management Act form

New Facility: No

How does this fit in master plan

Yes. See Master Plan link in GMA questionaire attachment.

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	80,000,000				500,000
	Total	**80,000,000**	**0**	**0**	**0**	**500,000**

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State	7,500,000	72,000,000		
	Total	**7,500,000**	**72,000,000**	**0**	**0**

Schedule and Statistics

Start Date	End Date

OFM

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20102002**
Project Title: **UW Tacoma Phase 4**

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2009	12/01/2009
Design	4/1/2010	9/1/2011
Construction	7/1/2011	7/1/2013

	Total
Gross Square Feet:	105,000
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	421
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.28%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		318,630	0.4%
Construction Documents		2,388,254	3.0%
Extra Services		2,099,669	2.6%
Other Services		1,765,966	2.2%
Design Services Contingency		881,907	1.1%
Consultant Services Total		**7,454,426**	**9.3%**
Maximum Allowable Construction Cost(MACC)	**44,210,142**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		44,210,142	55.3%
GCCM Risk Contingency		1,283,849	1.6%
GCCM or Design Build Costs		6,826,600	8.5%
Construction Contingencies		6,631,521	8.3%
Non Taxable Items		0	0.0%
Sales Tax		5,305,690	6.6%
Construction Contracts Total		**64,257,802**	**80.3%**
Equipment			
Equipment		3,391,158	4.2%
Non Taxable Items		0	0.0%
Sales Tax		305,204	0.4%
Equipment Total		**3,696,362**	**4.6%**

OFM

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20102002
Project Title: UW Tacoma Phase 4

Cost Summary

	Escalated Cost	% of Project
Art Work Total	221,051	0.3%
Other Costs Total	1,025,452	1.3%
Project Management Total	3,344,907	4.2%
Grand Total Escalated Costs	80,000,000	
Rounded Grand Total Escalated Costs	80,000,000	

Operating Impacts

No Operating Impact

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

MILLER HALL RENOVATION

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Miller Hall		RENOVATION	20091001
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20091001
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	9/1/2009	12/31/2009
Design	4/1/2010	9/30/2011
Bid	5/1/2011	12/31/2011
Construction/Occupancy	6/1/2011	12/1/2012

2. Problem Statement (short description of the project – the needs and the benefits)

Miller Hall is one of the most beautiful historic buildings on the central quadrangle of the University of Washington's Seattle campus, aka "the Quad." Miller Hall was constructed in 1922 and had a partial renovation in 1962. Miller Hall has not had a major infrastructure upgrade in over 46 years and some systems are older. For example, the majority of the building is heated and ventilated only by the original vintage 1922 building supply and return/exhaust fans.

Faculty cannot carry out many modern teaching activities in Miller Hall due to the constraints of the antiquated building systems. Insufficient communication and electrical service, lighting, ventilation, and other systems limit the utilization of teaching and research spaces.

The building does not meet modern building code requirements regarding seismic safety, accessibility, electrical systems, air handling, water and fire protection. No viable alternative space has been identified for the programs housed in Miller Hall. The fire alarm system is currently not compatible with the campus-wide system and the building is not outfitted with fire sprinklers.

A full major building renovation is proposed for this beautiful campus building that will allow it to last for the next generations of students. A renovation of Miller Hall provides an opportunity to improve seismic performance, accessibility, safety, maintainability, energy and water consumption, and provide other modern sustainable building features. The reconfiguration of all interior spaces allows major improvements in the quality and functionality of teaching spaces and the efficiency of the overall building.

3. History of the project or facility

Designed in the campus gothic style by architects Bebe and Gould, Miller Hall forms the eastern edge of the picturesque quadrangle. Over the years the building exterior has undergone few modifications and therefore has retained its grand character. Miller Hall was originally built as the administrative center of the University and housed the Regents, President's office, Registrar and classrooms. A thorough historical review will be competed as part of the predesign process.

A full building renovation has long been planned and Miller Hall has been prioritized for capital funding as part of the University's ongoing "Restore the Core" renovation program to restore and modernize buildings in greatest need of renovation as documented in the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.*

In the University of Washington's 2009-2011 Capital Budget Request the University requests $4,000,000 in state funding for a predesign study and design funding for the complete renovation of Miller Hall. Predesign and design funding is requested in order to prepare for a major building renovation of the 72,655 gross square foot facility in 2011-2013. As is the case with the other major renovations in the "Restore the Core" program, both the predesign and design phases can be accomplished in one biennium.

The UW has succeeded in total savings of over $18 million to date in state capital funding that would have otherwise been needed to cover additional inflation costs by completing "Restore the Core" projects in two biennia instead of three. In accordance with the "Restore the Core" program, occupants of Miller Hall will be surged into Condon Hall upon completion of the Denny Hall and Lewis Hall renovation projects in August 2011. Completing projects in two biennia instead of three has allowed for efficient use of Condon Hall for temporary surge space.

4. University programs addressed or encompassed by the project

The proposed project will renew the facility for the current occupants, the College of Education. Miller Hall is an important instructional building. Altogether there are five general assignment classrooms in Miller Hall, with a total of 255 seats. The majority of the classrooms are 35-40 seat capacity. There are fifteen conference/seminar rooms and one 150-seat classroom.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- **"Restore the Core"**

Miller Hall houses the UW's nationally acclaimed School of Education which is a state resource of teaching, learning and research for K-12 and higher education – its discipline spans all of education. In addition, Miller Hall sits on the UW's Quad and is one of its highly regarded "Restore the Core" buildings. Over the past several capital budgets, the legislature has invested in the University's "Restore the Core" projects – a continued investment stays the course and ensures completion of the objective from start to finish.

- **Increases the number of high-demand fields**
- **Increases number of advanced degrees awarded**
- **Promotes partnerships with K-12 and other public and private institutions**

Fostering thoughtful and effective teachers is an ongoing emphasis of UW's School of Education. This year the School proposes increasing the number of math and science teachers it educates. Shortfalls in math and science teachers with adequate subject matter knowledge present a perennial problem in Washington as well as throughout the country. This is why teachers repeatedly appear on the state's high-demand list of enrollments -- a worthy investment in the future.

Because masters level work is so important to effective teaching, the University only grants degrees to teachers at the masters level or above. Increasing the number of advanced degrees in this important high-demand field is critical, and with this project, the UW will seek to aggressively address the current shortfall. Revamping Miller Hall will ensure our success.

By improving Miller Hall teaching and learning facilities, the University can better meet the needs of the broader education community as a place to convene and discuss the thorny education issues in an environment of open dialogue and inquiry. The right "space" at Miller Hall will be instrumental to ensuring that all of Washington's children learn and have an equal opportunity for educational success.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after-hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html

Miller Hall is located in the Seattle Campus central core where preservation and restoration are the primary concerns for the historic buildings. The Miller Hall Renovation project promotes the following specific goals in the University's Campus Master Plan:

The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.

- The renovation of Miller Hall, a classic example of the campus gothic style designed by Bebe and Gould Architects, reinforces the history of the original campus.

The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character, history, architecture and open space. The Campus Master Plan identifies and encourages preservation of historic resources and open space.

- The renovation of Miller Hall will bring the building into seismic compliance, will stabilize and restore the façade and ornamental details, and will upgrade the major building systems. Thus this project will ensure that Miller Hall will endure and serve the Campus for many decades to come.

The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.

- An accessible route will be created to offer people with disabilities entrances to and use of the building.

The Campus Master Plan should help create a safe and healthy environment, with personal and workplace considerations integral to planning and design of circulation elements, buildings and open space.

- The building renovation will include the abatement of hazardous materials, while the new construction will improve ventilation and use materials that are selected to minimize emissions. The seismic renovation of the building will strengthen the structure, and the exterior masonry and details will be anchored thus significantly increasing its life-safety performance in the event of an earthquake. Fire sprinklers, alarms and other safety features will also be included in the renovation.

The Campus Master Plan should value the environment and strive to promote the conservation of natural resources.

- The reuse of existing buildings is one of the most resource-efficient strategies available to an institution. The preservation of Miller Hall will also include the use of low-toxicity materials as well as sustainability harvested materials and renewable resources. Building systems, including electrical and plumbing systems, will be selected for their efficiency and mechanical systems will be minimized through the use of natural ventilation. The recycling and reuse of construction and demolition waste, to keep materials out of the waste stream, will be required of the contractor. The renovation will be designed to achieve at least Leadership in Environmental and Energy Design (LEED) Silver requirements.
- The opportunity to use new landscaping that will allow for more daylighting opportunities into the ground floor.

Site development will conform to the stated Open Space, Circulation and Development Objectives, specifically:

- Incorporating accessibility to and into the building as an integral design element;
- Editing the overgrown existing plantings to address security issues.

Site Development will conform to the Master Plan Objectives by Area, as follows:

- Maintaining, conserving and building on the existing historic character, and complementing the existing site context;
- Ensuring that the character of new and renovated buildings and open spaces complement the existing context;
- Renewing and rehabilitating buildings, infrastructure and the landscape;
- Ensuring that new elements in the landscape, such as signage, bike facilities, and service areas, do not detract from the quality of the environment.

(b) Campus Facilities Plan and the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.*

Constructed in 1922, Miller Hall needs major improvements or replacements of all major building systems. It is one of the fifteen buildings in greatest need of renovation on the Seattle campus. Based on the weighted criteria developed as part of this plan, and the surge fit planning for the use of Condon Hall as temporary surge space, Miller Hall is prioritized for renovation in Phase V of the "Restore the Core" program and scheduled for predesign/design in 2009-11 and construction in 2011-13. The "Restore the Core" study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf.
A brochure providing an overview of the "Restore the Core" program is included in the appendix.

(c) Strategic Plan
The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. This project is a key step in the long-term capital plan to restore the University of Washington core academic facilities systematically over the next ten to fifteen years. The University of Washington's request for predesign and design funding for a renovation of Miller Hall is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
    - The Miller Hall Renovation will provide state of the art classrooms with configuration and the technology needed to support modern teaching methods.
    - Bringing the building up to current Americans with Disabilities Act (ADA) code requirements will improve universal access to programs located in the building.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
    - The College of Education placed seventh nationally in latest *US News & World Report* rankings. The renovation will provide state of the art teaching and research spaces for the College of Education needed to help maintain and even improve this ranking.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
    - A "Commons" will be part of the renovation program that will be designed to allow students, faculty, and staff to gather in a room that supports studying, small or large meetings, special events, and impromptu discussion.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
    - As home to the College of Education, a renovated Miller Hall will improve the University's ability to prepare tomorrow's K-12 teachers. A system of excellence in education from kindergarten through higher education is a key towards creating a state economy capable of competing in a global environment.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
    - The building will achieve LEED Silver requirements.

- Life cycle costing has been used in the design process to make decisions that help ensure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

Miller Hall is the seventh priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and is the third priority in the Renovation category.

7. Age of Building Since Last Major Remodel:

a. Identify the number of years since the last substantial renovation of the facility. If only one portion of a building is to be remodeled, provide the age of that portion only. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

Miller Hall had a partial renovation in 1962. Miller Hall has not had a major upgrade in over **46 years** and some systems are older. For example, the majority of the building is heated and ventilated only by the original vintage 1922 building supply and return/exhaust fans.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. Condition of Building:

a. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2008 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

Miller Hall is rated a 4 in the 2008 Comparable Framework. A 2008 Comparable Framework summary and a more detailed Consolidated Building Audit performed by the University of Washington's Campus Engineering group in 2008 is provided in the appendix.

b. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Miller Hall is not listed on the Washington Heritage Register.

10. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, or energy code requirements. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

A building conditions audit is located in the appendix. Applicable standards or codes are included in the document. A thorough review of relevant codes and standards is conducted during the predesign process.

The project scope assumes major renovation of the facility including the following:

- Correct seismic, structural, and life and safety code conditions deficiencies;
- Waterproof, repair, and seal stone foundation walls and install perimeter drainage;
- Provide ADA compliant restrooms and correct other ADA non-conformances;
- Replace aging elevator;
- Provide emergency power service;
- Replace major building systems, controls, meters, and utility lead-ins;
- Replace or restore all windows and doors for energy efficiency;
- Upgrade primary power service and main electrical equipment;
- Replace interior doors, hardware, finishes, and equipment;
- Abate asbestos containing materials and other hazardous materials;
- Clean, repair, re-point, and seal exterior brick and terra-cotta;
- Improve existing site and landscape including irrigation;
- Meet state requirements for LEED Silver certification.

In addition the following reports provide relevant building condition information and are available upon request.

- October 1991 *UW Earthquake Readiness Advisory Committee Report* established priorities for the seismic retrofitting of major capital facilities based on seismic condition studies, damage potential and life safety hazard. Miller Hall was ranked in the highest priority category in terms of potential damage because of its poor structural conditions. It was also of highest priority concern as a life safety hazard because of the large number of students, staff, and faculty occupying the building.
- July 2008 Exterior Envelope Study for Anderson Hall and Miller Hall notes that the majority of the masonry wall problems occur in the terra-cotta elements. The exterior brick is in good condition with some significant deterioration on the east elevation.

11. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The first three projects are geographically located in our region, and on the University of Washington's campus. The projects listed represent a comparable analysis of the scope of work, based on office and classroom space. The project at Stanford was adjusted by 90.5% to accommodate the Palo Alto (115.1 location factor) to Seattle (104.2). Page Hall (93.9) was increased by 111.0% for location adjustments. Page Hall consists of 45% office, 20% classroom, 14% lounge, 9% computer lab and 12% other. The Perry Building at the University of Michigan houses the Division of Survey and Technologies and is comprised mostly of office and conference rooms, and a small lab area. The location modifier is Ann Arbor (101.2) vs. Seattle (104.2) is an increase by 3%. Rayzor Hall at Rice University has a location factor of (87.7) 119%. The project is 22% classroom, 39% office, 30% circulation and 9% other. The Building 160 at Stanford is a renovation that consists of 49% classroom, 48% office and 4% café. These location factors are based on RS Means Facilities Construction Cost Data 2006.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Two years ago when the budget was originally reported, the anticipation for total project costs was expected to be approximately $550/gsf escalated. Today, the University of Washington is experiencing total project costs for major classroom renovations of approximately $600-700/gsf escalated for projects that would start construction during the 2011-2013 biennia.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Miller Hall	*University of Washington,* *Seattle, WA*	*72,655*	*$44,000,000*	*$605.60*	*Mar 2013*	*0%*	*$605.60*
Savery Hall	University of Washington, Seattle, WA	102,105	$61,510,000	$602.42	Jul 2009	17.4%	$707.24
Denny Hall	University of Washington, Seattle, WA	89,745	$56,915,000	$634.19	Jul 2011	4.8%	$664.63
Guggenheim Hall	University of Washington, Seattle, WA	57,504	$28,287,115	$530.53	Aug 2007	38.6%	$735.31
Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept 2004	71.4%	$1053.08

Perry Building Renovation	University of Michigan	55,912	$12,964,960	$231.88	Dec 2002	89.7%	$439.87
Rayzor Hall	Rice University Houston, TX	31,481	$8,233,211	$261.53	Dec 2001	95.6%	$511.55
Building 160	Stanford University Palo Alto, CA	71,400	$26,558,879	$371.97	Jun 2002	92.6%	$716.41

Construction Delivery method: The construction methodology proposed is the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions regarding the configuration of the construction staging area and methods of construction. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

12. 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.

All classrooms, instructional labs, offices spaces in the Miller Hall will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility: 44,000 ASF

(b) Gross square feet (GSF): 72,650 GSF

(c) Net building efficiency (ASF divided GSF): 60%

13. Adequacy of Space:

Describe whether and the extent to which the project is needed to meet modern pedagogical standards and/or to improve space configurations, and how it would accomplish that.

The College of Education would like to better engage faculty, student and staff in a collective effort to provide excellent training, research opportunities and community dialog. The current building configuration denies this integrated model through a warren of isolated office areas and obsolete classroom design. Improvements would include:

Upgraded building systems including

- power (the added power demands for current multi-media equipment frequently exceed the available circuitry in older rooms/buildings);
- revamped lighting with controllable lighting levels necessary for the multi-media equipment and presentations;
- new acoustic properties to enhance the understandability of the spoken word (both instructor-to-student as well as student-to-student and student-to-instructor interchanges);
- improved building ventilation, cooling and heating to solve the current problems of rooms that are either too cold or too hot, and

  - upgraded life safety (seismic upgrades, fire system upgrades).
- New multimedia infrastructure and equipment including
  - Conduit/pathways between multi-media equipment and the instructors;
  - Digital projection and playback equipment permanently installed in the classrooms (e.g. data projectors, DVD players);
  - Program sound systems (for playing back sound tracks on PowerPoint embedded materials, educational DVDs etc.);
  - Integrated equipment and room controls allowing quick and seamless transition from computer displays, digital programs (e.g. DVDs), document cameras, etc., and
  - Course capture equipment for automatic recording of courses and presented course materials for student review and study.
- New student furniture that supports
  - the ergonomic requires demanded by the changing class patterns (moving from 50-minute class sessions to 90- and 120-minute class sessions);
  - growing use of laptop computers by students;
  - the change from “lecture” to “active learning” requiring easily reconfigurable tables/chair furniture vs. the old “fixed to the floor” tablet-arm chairs, and
  - the recognition that classrooms should be welcoming and comfortable to enhance student understanding and learning.
- Upgraded and new compliance with federal and state accommodation requirements for students and instructors with special needs (i.e. ramps; height adjustable furniture; assisted listening systems, etc).
- Upgraded spaces outside the classrooms (e.g. lobbies and hallways) that allow students to gather in small groups with each other or with instructors in ad hoc and informal learning spaces (as a continuation of the formal learning taking place inside the classroom).
- The ability to create new types of classrooms, such as case study style rooms; small group breakout rooms; multimedia enriched classrooms, etc.

14. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

The future assignable square feet of space types in the program is determined in the predesign and design process. The profile below assumes, 1) College of Education goals are met, 2) rooms are reconfigured to FEPG standards.

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab)	21,643	49%
Student Advising/Counseling Services	1,616	4%
Childcare	0	0%
Faculty offices	13,850	31%
Administrative	6,891	16%
Total	44,000	100%

OFM

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20091001**
Project Title: **Miller Hall Renovation**

Description

Starting Fiscal Year: 2009
Project Class: Preservation
Agency Priority: 9

Project Summary

In 2009-2011, the University of Washington is requesting state funding of $4,000,000 for the pre-design study and design phase of the renovation of Miller Hall. This facility was constructed in 1922 and is located in the Liberal Arts Quadrangle. This building is in dire condition resulting from over 82 years of normal use and deterioration from the environment. Historically, the "Quad" is considered one of most treasured areas, for the architecture of buildings and landscaping, on the Seattle campus. Miller Hall is the home of the UW College of Education and consists of offices (153), 6 class laboratories, and four classrooms (260 stations). Miller Hall is one of fifteen UW buildings in the "Restore the Core" program of major building renovations described in the June, 2004, UW Building Restoration and Renewal Prioritization Study. This study is the culmination of work and analysis by an ad hoc committee appointed in 2002 by the Provost to evaluate, prioritize and develop a restoration plan. The Miller Hall Renovation project will address the major building deficiencies and issues including the exterior, heating/ventilation, plumbing, electrical, fire protection, surge space needs, communications system and computing infrastructure. As with other buildings in the "Restore the Core" plan, during the renovation of Miller Hall, Condon Hall will be utilized for surge space.

Project Description

In 2009-2011, the University of Washington is requesting state funding of $4,000,000 for the pre-design study and design phase of the renovation of Miller Hall.Miller Hall is one of the fifteen buildings in the "Restore the Core" program. As one of the buildings on the UW's Critical Building List this building is also integral part of the Seattle campus. Ten of the fifteen buildings on the list contain 80 general assignment classrooms, approximately one-fourth of all Seattle Campus general assignment classrooms. These buildings have occupied a prominent position in the University's history and culture throughout most of the twentieth century. For Miller Hall, the "Restore the Core" study recommends "major improvements or replacements of all major building systems. Structurally, the building should be strengthened to better resist the lateral forces generated by earthquakes. The mechanical, electrical, and communications infrastructure should be completely renewed. Upgrades to improve the energy performance of the building envelop should also be made." The Miller Hall Renovation project will address the major building issues including the exterior, heating/ventilation, plumbing, electrical, fire protection, surge space needs, communications system and computing infrastructure. During the renovation of Miller Hall, Condon Hall will be utilized for surge space.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management Impacts

See GMA Questionaire

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	44,000,000				4,000,000
	Total	**44,000,000**	**0**	**0**	**0**	**4,000,000**

OFM

360 - University of Washington
Capital Project Request

2009-11 Biennium

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Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20091001
Project Title: Miller Hall Renovation

Funding

			Future Fiscal Periods		
		2011-13	**2013-15**	**2015-17**	**2017-19**
057-1	State Bldg Constr-State	40,000,000			
	Total	**40,000,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2009	12/01/2009
Design	4/1/2010	12/1/2011
Construction	8/1/2011	3/1/2013

	Total
Gross Square Feet:	72,655
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	330
Construction Type:	Other Schedule B Projects
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.99%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		265,525	0.6%
Construction Documents		2,662,125	6.1%
Extra Services		1,032,365	2.4%
Other Services		977,293	2.2%
Design Services Contingency		549,065	1.3%
Consultant Services Total		**5,486,373**	**12.5%**
Maximum Allowable Construction Cost(MACC)	**23,996,700**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		23,996,700	54.5%
GCCM Risk Contingency		572,858	1.3%
GCCM or Design Build Costs		3,102,446	7.1%
Construction Contingencies		3,599,505	8.2%
Non Taxable Items		0	0.0%
Sales Tax		2,814,435	6.4%

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20091001**
Project Title: **Miller Hall Renovation**

Cost Summary

	Escalated Cost	% of Project
Construction Contracts Total	**34,085,944**	**77.5%**
Equipment		
Equipment	1,085,565	2.5%
Non Taxable Items	0	0.0%
Sales Tax	97,701	0.2%
Equipment Total	**1,183,266**	**2.7%**
Art Work Total	**119,984**	**0.3%**
Other Costs Total	**658,022**	**1.5%**
Project Management Total	**2,466,411**	**5.6%**
Grand Total Escalated Costs	**44,000,000**	
Rounded Grand Total Escalated Costs	**44,000,000**	

Operating Impacts

No Operating Impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 29
Cost Estimate Title: Miller Hall Renovation
Report Number: CBS003
Date Run: 8/13/2008 8:40AM

Version: 01 2009-11, Draft
Project Number: 20091001
Project Title: Miller Hall Renovation
Project Phase Title:
Agency Preferred: Yes

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.: 72,655
Usable Sq. Ft.: 0
Space Efficiency: 0%
MACC Cost per Sq. Ft.: 289
Escalated MACC Cost per Sq. Ft.: 330
Remodel? Yes
Construction Type: Other Schedule B Projects
A/E Fee Class: B
A/E Fee Percentage: 8.99%

Schedule

	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	12-2011
Construction:	08-2011	03-2013
Duration of Construction (Months):	19	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		265,525	
Construction Documents		2,662,125	
Extra Services		1,032,365	
Other Services		977,293	
Design Services Contingency		549,065	
Consultant Services Total			**5,486,373**
Site work		0	
Related Project Costs		0	
Facility Construction		23,996,700	
Construction Contingencies		3,599,505	
Non Taxable Items		0	
Sales Tax		2,814,435	
Construction Contracts Total			**34,085,944**
Maximum Allowable Construction Cost(MACC)	**23,996,700**		
Equipment		1,085,565	
Non Taxable Items		0	
Sales Tax		97,701	
Equipment Total			**1,183,266**
Art Work Total			**119,984**
Other Costs Total			**658,022**
Project Management Total			**2,466,411**
Grand Total Escalated Costs			**44,000,000**
Rounded Grand Total Escalated Costs			**44,000,000**

Additional Details

Alternative Public Works Project: Yes

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	29	**Report Number:**	CBS003
Cost Estimate Title:	Miller Hall Renovation	**Date Run:**	8/13/2008 8:40AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20091001		
Project Title:	Miller Hall Renovation		
Project Phase Title:			

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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360 - University of Washington
Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number: 29 **Analysis Date:** July 22, 2008
Cost Estimate Title: Miller Hall Renovation

Detail Title: Miller Hall 09-11
Project Number: 20091001
Project Title: Miller Hall Renovation
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	72,655
Usable Sq. Ft.:	
Rentable Sq. Ft.:	
Space Efficiency:	
Escalated MACC Cost per Sq. Ft.:	330
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule B Projects
Remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	8.99%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	12-2011
Construction:	08-2011	03-2013
Duration of Construction (Months):	19	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 21,000,000
MACC (Escalated):	$ 23,996,700
Current Project Total:	$ 39,028,425
Rounded Current Project Total:	$ 39,028,000
Escalated Project Total:	$ 44,000,000
Rounded Escalated Project Total:	$ 44,000,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	250,000			
SubTotal: Pre-Schematic Design Services		**250,000**	1.0621	**265,525**
Construction Documents				
A/E Basic Design Services	2,449,733			
SubTotal: Construction Documents		**2,449,733**	1.0867	**2,662,125**
Extra Services				
Civil Design (Above Basic Services)	45,000			
Geotechnical Investigation	30,000			
Commissioning (Systems Check)	60,000			
Site Survey	15,000			
Testing	150,000			
Leadership Energy & Environment Design List(LEED)	90,000			
Voice/Data Consultant	40,000			
Value Engineering Participation & Implementation	20,000			
Constructability Review Participation	40,000			
Environmental Mitigation Services (EIS)	10,000			
Landscape Consultant	75,000			
Acoustical Consultant	25,000			
Haz Mat Consultant	60,000			
Elevator Consultant	10,000			
Communications Consultant	50,000			
Graphics	25,000			
Interior Design	85,000			
Phasing/Early Bid Packages	30,000			
Quality Control Consultant	40,000			
Electronic AudioVisual	50,000			
SubTotal: Extra Services		**950,000**	1.0867	**1,032,365**
Other Services				
Bid/Construction/Closeout	585,249			
HVAC Balancing	70,000			
Constuction Support	200,000			
SubTotal: Other Services		**855,249**	1.1427	**977,293**
Design Services Contingency				
Design Services Contingency	450,498			
Change Order Design Allowance	30,000			
SubTotal: Design Services Contingency		**480,498**	1.1427	**549,065**
Total: Consultant Services		**4,985,480**	1.1005	**5,486,373**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	20,000,000			
Additional Escalation	1,000,000			
SubTotal: Facility Construction		**21,000,000**	1.1427	**23,996,700**
Maximum Allowable Construction Cost (MACC)		**21,000,000**	1.1400	**23,996,700**
GCCM Risk Contingency				
GCCM Risk Contingency	501,320			
SubTotal: GCCM Risk Contingency		**501,320**	1.1427	**572,858**
GCCM or Design Build Costs				
GCCM Fee	1,014,639			
Bid General Conditions	900,375			
GCCM Preconstruction Services	400,000			
Construction Support Services	400,000			

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
SubTotal: GCCM or Design Build Costs		**2,715,014**	1.1427	**3,102,446**
Construction Contingencies				
Management Reserve	1,050,000			
Allowance for Change Orders	2,100,000			
SubTotal: Construction Contingencies		**3,150,000**	1.1427	**3,599,505**
Sales Tax		**2,462,970**	1.1427	**2,814,435**
Total: Construction Contracts		**29,829,304**	1.1427	**34,085,944**
EQUIPMENT				
E10 - Equipment	400,000			
E20 - Furnishings	550,000			
SubTotal:		**950,000**	1.1427	**1,085,565**
Sales Tax		**85,500**	1.1427	**97,701**
Total: Equipment		**1,035,500**	1.1427	**1,183,266**
ART WORK				
Total: Art Work		**119,984**	1.0000	**119,984**
OTHER COSTS				
Mitigation Costs	200,000			
Permit, Insurance, Connectivity	391,746			
Total: Other Costs		**591,746**	1.1120	**658,022**
PROJECT MANAGEMENT				
Agency Project Management	2,037,411			
Contract Construction Management	384,000			
Preactive PM Fees	45,000			
Total: Project Management		**2,466,411**	1.0000	**2,466,411**

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360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

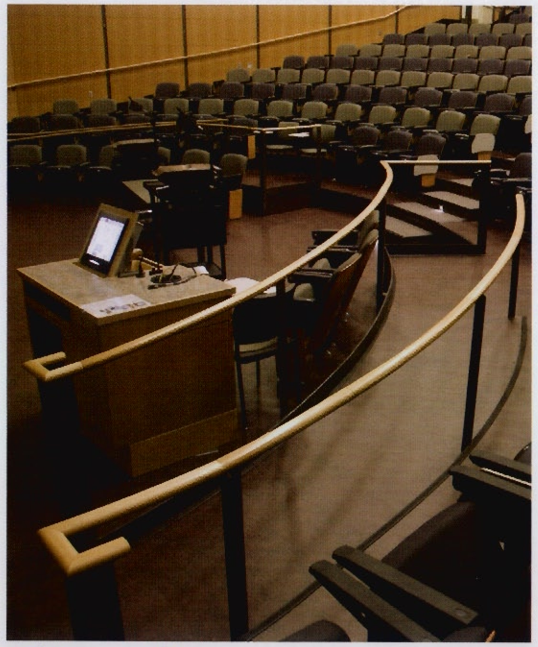
*

Cost Estimate Number: 29
Cost Estimate Title: Miller Hall Renovation

Report Number: CBS003
Date Run: 8/13/2008 8:40AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20091001	20091001
Cost Estimate Number	29	29
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

The Results



Architecture Hall

Guggenheim Hall

The Next Phase

DENNY HALL opened in 1895 and is the oldest building on campus. It was named for Arthur Denny, the pioneer who donated the majority of the University's original 10-acre downtown tract. Denny Hall is home to the Departments of Anthropology, Classics, Germanics, and Near East Studies.

Denny Hall, then and now

LEWIS HALL is among the oldest buildings on campus, and was built as a dormitory for men in 1899. Named after the famous Pacific Northwest explorer Meriwether Lewis, Lewis Hall is the future home of the Information School.

Lewis Hall, then and now

BALMER HALL will be completely rebuilt as a component of the University's new Business School Complex.

The Benefits

REFURBISHED BUILDINGS WILL:

- Meet current seismic and safety requirements
- Provide modern technology to students, faculty and staff
- Conserve resources through sustainable design and LEED® Silver certification

RESTORE THE CORE'S efficient schedule allows projects to be completed in a four-year span, rather than six. This accelerated schedule has saved $18 million in state funds to date.

- Architecture Hall: $4.7 million saved
- Guggenheim Hall: $6.1 million saved
- Johnson Hall: $7.2 million saved

GENERATIONS of Washington citizens have helped create the campus facilities that support a world-class education at the University of Washington. The Restore the Core program will ensure these benefits for future generations.

W®

Consultants:

Ira Fink and Associates, Inc.

Otak, Inc.

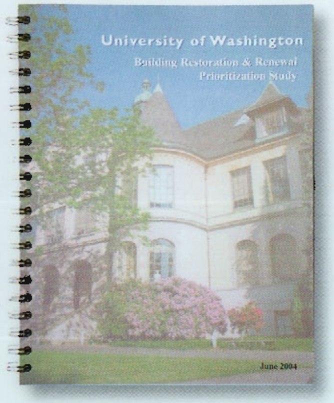
RESTORING THE CORE

The University of Washington's major program of building restoration is at the halfway mark

The Plan

THE UNIVERSITY'S *Building Restoration & Renewal Prioritization Study* of 2004 established a plan to renew and renovate fifteen significant buildings on the Seattle Campus.

The deteriorating condition of these buildings—providing more than 900,000 gross square feet, and housing more than 40 academic programs—was threatening our ability to deliver core campus functions in teaching, research, and public service.



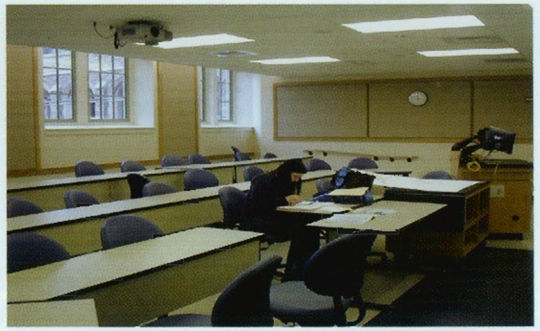
In recognition of the need to protect and renew the priceless resource that our academic buildings represent, the University has focused its attention on restoring our core campus facilities so that they may be used and enjoyed by future generations.

Restoration Schedule

PHASING SCHEDULE	Phase I 2003–2005	Phase II 2005–2007	Phase III 2007–2009	Phase IV 2009–2011	Phase V 2011–2013	Phase VI 2013–2015
PLANNING/ DESIGN	Architecture Hall Guggenheim Hall	Savery Hall Clark Hall Playhouse Theater MHSC H-Wing	**Denny Hall** **Lewis Hall** **Balmer Hall**	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall	—
CONSTRUCTION	Johnson Hall	Architecture Hall Guggenheim Hall	MHSC H-Wing Savery Hall Clark Hall Playhouse Theater	Denny Hall Lewis Hall Balmer Hall	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall

The Progress

Construction funding for the renovation of Johnson Hall was approved by the state in the 2003-2005 capital budget.



Renovation of Johnson Hall was completed in 2005.

BUILDING RESTORATION & RENEWAL STATUS

■ Completed ▨ In Process □ Future

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

Consolidated Building Audit for:

Miller Hall

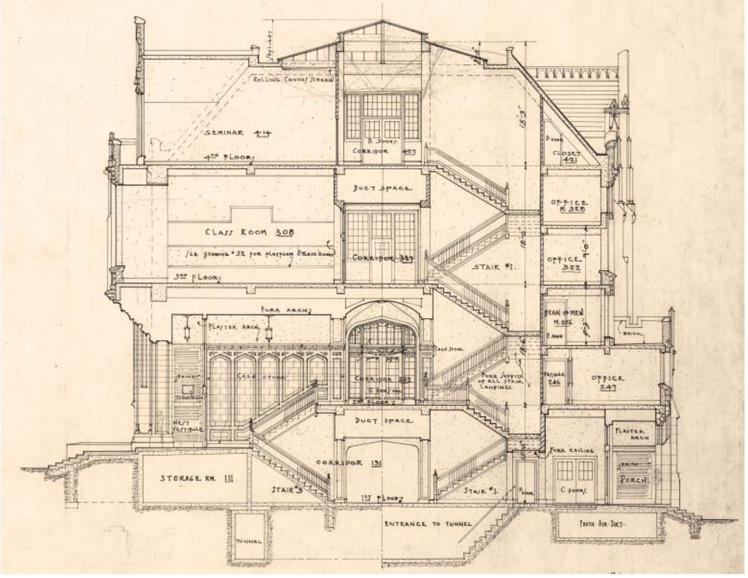
By: Campus Engineering

General

This audit reflects the status of existing building system components and infrastructure of **Miller Hall** and any known maintenance and/or operational issues related to those systems. Included are preliminary recommendations for addressing the issues related to these systems.

This audit is the result of "brief" site investigations performed for this building. Please note that our audit does not replace the need of a detailed investigation/evaluation. Existing conditions and known problems are pointed out now for awareness and so that they are addressed early.

Description:



Miller Hall was built in 1922 from a design by Bebb and Gould as the original Education Hall which also contained the University administration offices. Remnants of these offices can still be seen at the second floor Dean of Education offices. The building is of colligate gothic design in brick and terra cotta masonry over a cast in place concrete frame. This masonry cladding is heavily ornamented at the upper levels with terra cotta statuary and grotesques. In 1962 the building received major interior alterations and the installation of new aluminum frame single glazed windows. Mortar joints were "striped" sometime in the late 1970's or 1980's, and a coating was applied over deteriorating terracotta joints and spalled glazing. There is little record of other masonry repair or restoration work for this building.

BUILDING CONDITIONS: ARCHITECTURE

The following notes are the results of an audit of the condition of the architectural elements of **Miller Hall**. The ratings noted, where given, are based on an evaluation of the years of usable service left in a component. A poor rating means replacement to approximately 5 years of service remaining; a fair rating means 5 to 15 years of service remaining; and a good rating means 15 years to 25 years of service remaining.

Consolidated Building Audit for:

Miller Hall

By: Campus Engineering

Site

Miller Hall forms part of the Liberal Arts Quadrangle and sits on a relatively flat grassy site bounded by Skagit Lane to the south, an asphalt paved walk to the east, and brick paved walks and terraces to the north and west.

Background/Problems:

The lawn on the Quad side (north) does not drain well and becomes waterlogged. This makes maintenance on this side of the building difficult when heavy equipment is needed.

Recommendations:

Consider improvements to drainage and soils so lawn can support maintenance equipment.

Background/Problems:

There is no dedicated loading dock. Materials enter and exit the building via a pedestrian entrance and accessible ramp along Skagit Lane. Parking for delivery vehicles is provided in a paved space between Skagit lane and the building.

Recommendations:

Consider ways to improve service access to the building.

Background/Problems:

There is currently only one entrance to the building that is accessible to persons in wheelchair.

Recommendations:

Consider options to improve accessibility to the building.

Waterproofing – Vertical and Horizontal

The building has a concrete foundation with asphaltic damp proofing applied to exterior below grade surfaces.

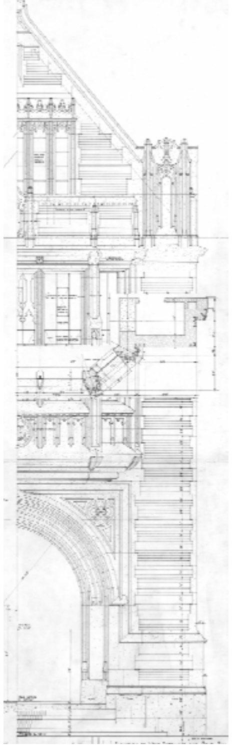
Background/Problems:

There are no known water intrusion problems.

Recommendations:

Consider benefits of excavating and waterproofing existing foundations. Coordinate with Civil section for perimeter foundation drainage.

Exterior Facade



The building façade is a brick and terra cotta veneer over a concrete structural frame or clay masonry infill. The upper entablature is richly decorated with terra cotta statuary and grotesques. Terra cotta tracery adorns the upper story windows, and building entrances are deep-set in arched terra cotta porches. Much of the building was covered in ivy until 2006. No formal, detailed study of this veneer has been done, however University forces have documented several conditions which need remedial action.

Background/Problems:

Numerous pieces of terra cotta are damaged or broken. Glazed surfaces are crazed and chipped; clay cores are cracked and spalled; and mortar joints are soft and crumbling. Copings have no known metal anchors and buttresses finials and parapets are unreinforced. Brick veneer faces are spalling and mortar joints are weak. Steel support angles have no protective flashing and show signs of rust jacking. Some copper parapet flashing is missing or damaged. Pilasters, window bays, entrances and parapets are unreinforced masonry so their ability to maintain structural integrity in an earthquake is unknown.

Recommendation:

Perform a thorough study of the masonry veneer and all of its components. Determine and document the condition of masonry units, mortar joints, metal supports and ties, flashing and back-up material. Determine course of action for full and complete masonry and seismic restoration. Restore masonry for a 50 year life cycle with minimal maintenance.

Consolidated Building Audit for:

Miller Hall

By: Campus Engineering

Roof

Steep slope roofs are slate over concrete deck, nailed to a 2-inch +/- layer of "nailcrete". Roof and gutter flashing is corrugated copper with soldered seams. Flat roofs are built-up with granular cap sheet and a reflective coating, trimmed at the perimeter with a copper band of barrel-shaped copper ornament. There is an array of roof-top equipment, much of which might be removed in a total building renewal.

Background/Problems:
Flat roofs are in poor condition. Some drains don't work properly.

Recommendations:
Consider relocating existing roof-top mechanical equipment to eliminate roofing penetrations and service traffic. See mechanical section for recommendation regarding roof drains. Remove and replace roofing.

Background/Problems:
There is no fall arrest system in place on this roof.

Recommendations:
Design and install new equipment for safe access for roof-top maintenance and for work on building wall surfaces.

Background/Problems:
Roof Gutters are of copper sheet material with soldered seams. An emulsion coating was applies in the 1980's to prolong the life of the gutters. These gutters are now in fair condition with isolated conditions where copper seams have opened.

Recommendations:
Consider repairing base copper material and placing an application of waterproof membrane over existing metal gutters and emulsion to further extend their life.

Background/Problems:
Slate shingles are in good condition

Recommendations:
Survey entire roof for broken or missing shingles and replace.

Windows

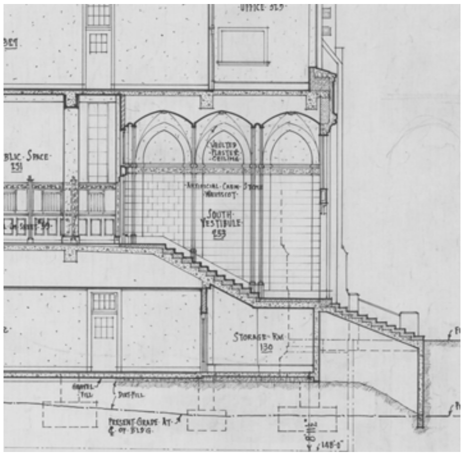
Most of the original steel sash windows were replaces in 1962 with aluminum sash and single glazing. Operable sash are either awning or hopper type. Photos at right show remaining steel sash windows over the south building entrance, and typical aluminum window at other locations.

Background/Problems:
Existing windows are not energy efficient. Some caulking around window frames is old and in poor condition.

Recommendation:
Remove and replace all windows with energy efficient windows. Consider matching closely the site lines of the original steel sash.

Entries and Exterior Doors

The west entrance (below) is very deep-set into the building. There is a long flight of cast-in-place concrete stairs interrupted by a mid-level landing. The walls are of Caen stone, the ceiling is vaulted plaster, and the entrance doors and frames are oak with a lead glass transom. There is also a decorative wrought iron grille in the arch at the exterior wall face. The north (left) and south entrances are similar but not so deep-set and exterior walls are brick and terracotta.



Background/Problems:
Space under stairs and landings is occupied. It is not known at this time if there is any water damage to the floor structures.

Recommendations:
Observe spaces under stairs and landings and determine if there is any damage to the structure. Make repairs as necessary.

Background/Problems:
Caen stone wall finishes are likely set on clay masonry walls of unknown dimension. During building renewal care must be taken to protect these walls.

Recommendations:
Do exploratory investigation of these walls to determine composition and construction. Use information gained to avoid damage during interior demolition process.

Background/Problems:
It is not known if the existing wood doors and frames can be re-used in a building renewal project. Doors are not equipped with access control hardware. All hardware should be considered to be beyond its useful life.

Recommendations:
Investigate condition of oak entry doors and frames and determine their ability to be restored. Consider all new hardware.

Interior Conditions

The east end of Miller Hall was originally home for the executive offices of the University. The north entrance, second floor circulation spaces and executive offices were finished with rich, durable materials including terrazzo floors Caen stone wainscots, oak paneling and plaster ceilings and trim. The two public stairs are of concrete construction with terrazzo treads and cast iron balusters and oak railings. Remodel projects occurs in 1968 and again in 1976. These projects changed the main areas of the building and added life-safety features to stairs and corridors, but left the executive office (right) suite generally in tact.

Background/Problems:
Time has been kind to the executive suite. Most of the original architecture is still there and is in good condition.

Recommendations:
Consider preserving this area while improving other building systems. Refinish all materials bock to original condition.

Background/Problems:
Terrazzo floors in stairs and corridors are badly cracked and chipped.

Recommendations:
Consider removing all terrazzo and replacing it with new material of similar durability and appearance.

Background/Problems:
Other interior finishes are not significant if the building is to be gutted and re-built to a new configuration

Vertical Transportation

Elevator #102 is a hydraulic, 3,500 lbs. capacity, passenger type installed in 1963. It has been updated within the last 10 years and functions adequately. The interior is in fair to poor condition.

Background/Problems:
Elevator does not service all floors of the building.

Recommendation:
Continue scheduled maintenance and replace when renovated.

ADA Accessibility

Miller Hall, like many other buildings of its era, has lots of steps, small spaces and general inaccessibility. Only one of four entrances is accessible to people in wheelchairs. Only one set of restrooms is accessible, and many of the offices are located on inaccessible mezzanines.

Background/Problems:
There is no accessible entrance from the Liberal Arts Quad.

Recommendations:
Consider creating a new entrance so the architecture of the existing entrances can stay in-tact.

BUILDING CONDITIONS: STRUCTURAL

Description:

Miller Hall is a four-storey building. The typical floor is 70’x229’ with a 3712sf mezzanine at second floor and two 240sf mezzanines at the third floors. The total area of the building is 67,832sf. The roof is steeply pitched and the central part of it 34’x194’ was originally a skylight. The overall building height is about 67’.

Over 50% of exterior wall consists of window and door openings. The exterior is clad with brick and terra cotta. The interior partitions are 4” hollow tile.

The finish grade on the west side is about 6’ higher than the east. The Miller Hall is located at the north of campus which is in zone A of UW seismic hazard map, base on FEMA Table 2.1, the site coefficient S=1.2.

The building framing is reinforced concrete beams, slabs and columns. The interior foundation for column is supported on individual square footing. The exterior individual square footing is supporting column and grade beams which are carrying the bearing wall above.

Background/Problems:
Building was designed and constructed prior to the adoption of modern seismic codes.

Recommendations:
Evaluate seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a “Life Safety” performance level (as defined by ASCE 31).

Background/Problems:
The gross roof area is about 17,000 SF, the middle 40% was occupied by skylight at one time. The skylights had been covered by plywood and roofing material on top and wood strips on the soffit.

Recommendations:
Can roof diaphragm action be developed? Should cross bracings be added at the roof openings?

Background/Problems:
There are 4” thick unreinforced hollow tile partition wall on each floor, the tallest one being 18’ high on the third floor.

Recommendations:
Check the hollow tile wall for the out-of-plane loads.

Background/Problems:
The masonry veneer is supported on 7”x3.5” steel angles at each spandrel. The angels are anchored into concrete by ¾” diameter bolts at 36” o.c.

Recommendations:
The condition of anchor bolts and angles need to be tested.

Background/Problems:
Majority of floor slabs are 5” thick reinforced with #3 bars. The second floor is exposed and there are cracks in both directions at about 10’ or closer interval.

Recommendations:
Check concrete slab for service loads, epoxy grout cracks.

Background/Problems:
There is a 4’-6” wide by 6’-6” high by 229’ long pipe tunnel running full length of building. The walls and slabs are 6” concrete and reinforced with #3 bars at 10” o.c. at the roof slab and 15” o.c. at the walls and the bottom slab is unreinforced.

The north end of tunnel is one foot higher in elevation than the south end where the floor drain is located, which provides 0.43% of slope to drain. There is water mark that the floor is not well drained. There is longitudinal crack and heave along the center of bottom slab.

Recommendations:
The bottom slab may have been pushed inward by the lateral load of exterior soil backfill. The 6” unreinforced bottom slab is not adequate to brace the bottom of walls. It is recommended to strengthen the bottom slab by adding a layer of topping at same time the topping can provide more slope to the drain(s).

BUILDING CONDITIONS: MECHANICAL

Utility Tunnel Piping System

Background/Problems:
Campus mechanical utility services to Miller Hall include 6 inch low pressure steam, 2-1/2 inch gravity condensate return, and 1 inch compressed air. The building steam consumption is not metered.

Recommendation:
The campus mechanical utility service pipes are over 40 years and should be replaced. Abate insulation and replace steam, condensate and compressed air piping.

Recommendation:
Provide a meter connected to building DDC control system for the condensate system.

Plumbing System

Background/Problems:
The 3 inch domestic water service piping in the building changes from ductile iron to galvanized steel to copper. Most of the hot and cold water distribution piping in the building is copper. The domestic hot water heater is an AERCO steam heated semi-instantaneous unit and does not appear to be double wall construction. Domestic water consumption in the building is not metered.

Several sanitary and storm drain connections exist around the perimeter of the building. There is a ¾ inch natural gas service that enters the building on the North end. The gas meter reads zero, so the gas service is likely not used.

Recommendation:
Replace the galvanized domestic water service piping with copper. Install a double wall steam semi-instantaneous hot water heater for the domestic hot water system to meet the current code requirements. Install a water meter connected to DDC control system for the domestic water system.

Sanitary sewer and storm drain pipes have exceeded their expected service life. Replace the sanitary and storm piping.

Remove the natural gas service to the building back to the main when if the service is not required.

Heading, Ventilating and Air Conditioning System

Background/Problems:

The majority of the building is heated and ventilated only by the original vintage 1922 building supply and return/exhaust fans. Perimeter offices utilize operable sash for ventilation, no mechanical ventilation is provided. In the 1960's a zone cooling system was added to parts of the mechanical ventilation system, but over the years that system has failed and has been removed in parts or abandoned in place. Zone cooling used in this application never really works well due to the excessive pressure drop imposed by the duct cooling coils. It is likely that the building air supply volume is below today's standards because bag filters have replaced the original electrostatic filters. The fan was not upgraded when the filters were replaced in the 1960's. There is a substantial pressure drop difference between electrostatic filters and bag filters. This pressure difference can cause a substantial decrease in supply air volume.

The perimeter spaces throughout the building were heated with steam radiators when the building was originally built in 1922. In the 1960's the steam radiators were replaced with a hot water radiation convector system. The central heating plant for the convector system consists of a steam converter and a hot water distribution pumping system. Subsequent to that replacement a hot water zone reheat system including a distribution pump was installed on part of an upper floor.

There are several small independent air conditioning systems installed throughout the building in an effort to provide cooling to the occupied spaces to meet the needs of the departmental programs. Most of these systems are either old or substandard. Capital Project #201864 was completed to study the replacement of these systems.

In general the building can be uncomfortably warm during the hotter months of the year (May through October) due to the lack of air conditioning. There are also a few computer servers in the building that need year around cooling to operate reliably without failure.

Recommendation:

For the most part the HVAC systems in the building have far surpassed their useful service life primarily due to good maintenance practices. All systems should be replaced when the building is renovated.

Environmental Control System

Background/Problems:
The building has a vintage pneumatic control system that is still operational primarily due to good maintenance practices.

Recommendation:
Upgrade to a Direct Digital Control system.

Fire Protection System

Refer to UW Environmental Health and Safety.

BUILDING CONDITIONS: CIVIL

Utility Distribution System

Water

Background/Problems:

- Records indicate the existing water service is located in the area between Miller Hall and Smith Hall on the southwest end of the building. Records also indicate this is a 4-inch service with a valve. The actual valve could not be located in the field. The fire department connection is located just north of the entrance on the southeast corner of the building in the area of the dumpsters.
- There are no water service related problems noted for the building.

Recommendation:

- Due to age, the existing 4-inch water service should be replaced back to the connection to the water main.
- Provide a new water meter with connection to the building control system. Coordinate with mechanical discipline.

Sanitary Sewer

Background/Problems:

- The sanitary sewer flow from the building is conveyed through a 6-inch sewer pipe located along the northwest side of the building. This sewage pipe does not combine with the storm drainage system until the first downstream manhole. There are no problems reported with the sanitary sewer system for this building

Recommendation:

- Replace the 6-inch sanitary sewer pipe between the first manhole and the building. Provide cleanouts at the changes in pipe direction.

Storm Drainage

Background/Problems:

- The roof leaders on this structure are internal to the building. Records indicate long term problems with debris stopping the flow of rainwater to the outside conveyance pipe system. The roof leader conveyance pipe does not connect to the buildings sanitary sewer pipe system.

Recommendation:

- Replace roof leader conveyance pipe with 6-inch pipe. Also replace footing drain with 4-inch pipe. Connect roof leader and footing drains to first downstream manhole. Provide cleanouts at changes in pipe direction.

Background/Problems:

- Grading issues along the northwest side of the building are creating low spots where water pools and becomes muddy from foot traffic and vehicles.

Recommendation:

- Regrade along northwest side of building to provide positive drainage away from the building OR provide yard drains.

Background/Problems:

- This building has a combined storm/sanitary sewer.

Recommendation:

- Separate the storm and sanitary discharge from the building.

BUILDING CONDITIONS: ELECTRICAL

Background:

- Building went through a major renovation in the early sixties and most of the electrical equipment seems to be from this period. A good number of the panelboards throughout the building are full and look to be inadequate to serve any future growth.

Primary Power (Normal) Connection

Background/Problems:

- No primary power internal to the building. Miller Hall is served from an 800amp 480V breaker in Smith Hall.
- Primary switches do not have required safety barriers.

Recommendations:

- It is recommended that Miller Hall get its own primary service during a major renovation.

Main Building Transformer & Service Entrance Equipment

Background/Problems:

- Miller Hall is served at 480V from Smith Hall. It is converted to 208V through a 500 KVA 480-208/120V below grade transformer in the quad. This equipment was installed in 1977.
-
- The main switchboard is a Westinghouse FDP bolt in served from the 500 KVA below grade transformer. The main breaker is 1600amps and the switchboard looks to be a mix of equipment from 1962 and 1977.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.

Emergency Power

Background/Problems:

- Miller Hall was connected to the central emergency distribution system in 2007. The system is served at 208V from Smith Hall through a 480V/208V 75KVA transformer. The Russelectric transfer switch serves the existing X-Panel.
- There is also battery powered egress lighting throughout the building.

Recommendations:

- Since batteries are a maintenance issue the egress lighting should be connected to the newly installed emergency system.
- In a major renovation most of the emergency equipment can be reused. The Russelectric ATS can be converted for 480V use.

Metering

Background/Problems:

- This building is currently metered with an existing Eaton IQA installed in the main switchboard.
- The emergency is separately metered with an Eaton IQ200 installed in the ATS.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.

Distribution System

Background/Problems:

- Distribution and panel boards are Westinghouse and appear to have been installed during the early sixties renovation of the building. Panel boards are located in stacked closets shared with communications. Almost all panel boards are full and appear inadequate to meet any future growth.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.

Lighting Systems

Background/Problems:

- Lighting is mostly 4’ fluorescents that appear retrofitted with T8 lamps.

Recommendations:

- Existing lighting most likely does not meet current energy code requirements and will have to be upgraded during any major renovations.

Fire Alarm Systems

Background/Problems:

- Fire alarm panel is Gamewell of modern type.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.

Miscellaneous Signal Systems

Background/Problems:

- Building is connected to the central clock system.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.

Prepared by:
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Structural, K. C. Chen P.E.
Civil, James A. Morin P.E.
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2008 Comparable Framework
Building Renewal, Repair, and Facility Improvements Summary
Miller Hall

Category (Uniformat)	Description	Condition Score
Superstructure (A: Substructure)	Structural and seismic repairs: The building was designed and constructed prior to the adoption of modern seismic codes. The building framing is reinforced concrete beams, slabs and columns. The interior foundation for column is supported on individual square footing. The exterior individual square footing is supporting column and grade beams which carry the bearing wall above. The entrances and parapets are unreinforced masonry, so their ability to maintain structural integrity in an earthquake is unknown.	5
Exterior (B: Shell)	Exterior repairs and renewal: The building façade is a brick and terra cotta veneer over a concrete structural frame or clay masonry infill. The brick veneer faces are spall and mortar joints are weak and numerous pieces of terra cotta are damaged or broken. The glazed surfaces are crazed and chipped; clay cores are cracked and spall; and mortar joints are soft and crumbling. The copings have no known metal anchors and buttresses finials and parapets are unreinforced. The steel support angles have no protective flashing and show signs of rust jacking. Most of the original steel sash windows were replaced in 1962 with aluminum sash and single glazing. The existing windows are not energy efficient and some caulking around window frames is old and in poor condition. The windows should be replaced with energy efficient windows.	5
Roof & Envelope (B: Shell)	Repair and replace roofing and envelope: Steep slope roofs are slate over concrete deck. Roof and gutter flashing is corrugated copper with soldered seams. Flat roofs are built-up and trimmed at the perimeter with a copper band of barrel-shaped copper ornament. The Slate shingles are in good condition but the flat roofs are in poor condition with some drains that don't work properly. The roof gutters are of copper sheet material with soldered seams and an emulsion coating was applied in the 1980's to prolong the life of the gutters. These gutters are now in fair condition with isolated conditions where copper seams have opened.	4
Interior (C: Interior)	Carpet replacement, painting, ceilings replacement and repairs: Most of the original architecture is still in place	3

	and is in good condition. The terrazzo floors in stairs and corridors are badly cracked and chipped and removing all terrazzo and replacing it with new material of similar durability and appearance should be considered.	
Conveying Systems (C: Interior)	Elevator repairs and renewal: The elevator is a hydraulic, passenger type installed in 1963. It has been updated within the last 10 years and functions adequately. However, the interior is in fair to poor condition and does not service all floors of the building.	4
Mechanical Systems (B: Services)	Modernization, renewal, repair, and replacement of mechanical systems: plumbing and piping; and heating and ventilation. The campus mechanical utility service pipes that serve the building are over 40 years and should be replaced. The domestic water service piping in the building changes from ductile iron to galvanized steel to copper with most of the water distribution piping in the building being copper. The galvanized domestic water service piping should be replaced with copper. The sanitary sewer and storm drain pipes have exceeded their expected service life and should also be replaced. The majority of the building is heated and ventilated by the original vintage 1922 building supply and return/exhaust fans. Perimeter offices utilize operable sash for ventilation, no mechanical ventilation is provided. In the 1960’s a zone cooling system was added to parts of the mechanical ventilation system, but over the years that system has failed and has been removed in parts or abandoned in place. The perimeter spaces throughout the building were heated with steam radiators when the building was originally built in 1922. In the 1960’s the steam radiators were replaced with a hot water radiation convector system. For the most part the mechanical systems in the building have far surpassed their useful service life primarily due to good maintenance practices. All systems should be replaced.	4
Electrical Systems (B: Services)	Upgrade, renewal, repair, and replacement of electrical systems: main service; distribution system; and monitoring and control systems. The building went through a major renovation in the early sixties and most of the electrical equipment seems to be from this period. The distribution and a good number of the panel boards throughout the building are full and look to be inadequate to serve any future growth. There is no primary power internal to the building. The building is served from Smith Hall. The transformer, main service breaker and the switchboard looks to be a mix of equipment from 1962 and 1977.	3

Utilities and Site work (G: Sitework)	Improvements, renewal, repair, and replacement of utilities and site work: footing and drains; and storm and sanitary side sewers: Due to age, the water service and sanitary sewer piping should be replaced back to the connection to the main and first manhole. The roof leaders on this structure are internal to the building. Records indicate long term problems with debris stopping the flow of rainwater to the outside conveyance pipe system. The roof leader conveyance pipe should be replaced, as well as the footing drains. This building has a combined storm/sanitary sewer. Thus, the storm and sanitary discharge from the building should be separated.	4
	Building Condition Total	4

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

ANDERSON HALL RENOVATION

AUGUST 15, 2008

Institution			**Agency Code**
University of Washington			360
Project Title		**Category of Project**	**Project Number**
Anderson Hall		RENOVATION	20091002
County	**City**		**Legislative District**
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
2007-09			20091002
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	9/1/2009	12/31/2009
Design	4/1/2010	9/30/2011
Bid	5/1/2011	12/31/2011
Construction/Occupancy	6/1/2011	12/1/2012

2. Problem Statement (short description of the project – the needs and the benefits)

Anderson Hall is a beautiful building designed in the campus gothic style on the University of Washington's Seattle campus. Anderson Hall was constructed in 1925 and had a partial interior renovation in 1968. Anderson Hall has not had a major infrastructure upgrade in over 40 years and some systems are older.

Faculty cannot carry out many modern teaching activities in Anderson Hall due to the constraints of the antiquated building systems. Insufficient audio visual equipment, communication and electrical service, lighting, ventilation, and other systems limit the functionality and utilization of teaching and research spaces.

The building does not meet modern building code requirements regarding seismic safety, accessibility, electrical systems, air handling, water, and fire protection. The lack of a building elevator makes upper floor inaccessible to mobility impaired individuals. The fire alarm system is currently not compatible with the campus wide system and the building is not outfitted with fire sprinklers.

A full major building renovation is proposed that will allow Anderson Hall to last for the next generations of students. A renovation of Anderson Hall provides an opportunity to improve seismic performance, accessibility, safety, maintainability, energy and water consumption, and provide other modern sustainable building standards. A major renovation will allow for the reconfiguration of all interior spaces to significantly improve the efficiency and functionality of the building.

3. History of the project or facility

Anderson Hall was designed by Bebb & Gould Architects and was constructed in 1925 for the Forestry Department. This building is a three-story concrete structure with brick and cast stone cladding.

In the University of Washington's 2009-2011 Capital Budget Request the University requests $2,500,000 in state funding for a predesign study and design funding for the complete renovation of Anderson Hall. Anderson Hall has been prioritized for capital funding as part of the University's ongoing "Restore the Core" renovation program to restore and modernize buildings in greatest need of renovation as documented in the June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.*

Pre-design and design funding is requested in order to prepare for a major building renovation of the 33,543 gross square foot facility in 2011-2013. The proposed project will renew the facility for the current occupants, the College of Forest Resources and other purposes yet to be determined. As is the case with the other major renovations in the "Restore the Core" program, because this will be a renovation of an existing facility, both the predesign and design phases can be accomplished in one biennium.

4. University programs addressed or encompassed by the project

Anderson Hall is currently occupied by the College of Forest Resources. Program changes will be considered prior and during the predesign process.

Anderson Hall is an important instructional building. There are three general assignment classrooms in Anderson Hall, with a total of 250 seats.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- **"Restore the Core"**

By renovating this University landmark found in the shadow of the Drumheller Fountain and Mount Rainier, the building will be transformed to meet the needs of today's students, faculty and staff. Learning has always occurred within the walls of Anderson Hall but now it will be in classrooms and learning centers that adequately meet the rigorous standards and expectations of today. This is consistent with the HECB master plan as well as current legislative interest, as evidenced by commitments made through the capital budget in restoring the core.

- **Increases economic development through theoretical or applied research**

Forestry continues to be an important contributor to the economy in Washington State and the nation. In fact, nationally, timber is the single highest-valued crop produced in the U.S., exceeding even corn and wheat. The UW College of Forest Resources educates the next generation of leaders in natural resources and public and private land management throughout the state, the region, and the nation and contributes to the solution of natural resources and environmental challenges throughout the world. The College of Forest Resources will continue to be the primary occupant of Anderson Hall so this important resource to the state economy will maintain its historic home.

- **Promotes safety from violence for students, faculty and staff**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after-hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html.

Anderson Hall is located in the Seattle Campus central core where preservation and restoration are the primary concerns for the historic buildings. The Anderson Hall Renovation project promotes the following specific goals in the University's Campus Master Plan:

The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.

- The renovation of Anderson Hall, a classic example of the campus gothic style designed by Bebe and Gould Architects, reinforces the history of the original campus.

The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character, history, architecture and open space. The Campus Master Plan identifies and encourages preservation of historic resources and open space.

- The renovation of Anderson Hall will bring the building into seismic compliance, will stabilize and restore the façade and ornamental details, and will upgrade the major building systems. Thus this project will ensure that Anderson Hall will endure and serve the Campus for many decades to come.

The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.

- An accessible route will be created to offer people with disabilities entrances to and use of the building.

The Campus Master Plan should help create a safe and healthy environment, with personal and workplace considerations integral to planning and design of circulation elements, buildings and open space.

- The building renovation will include the abatement of hazardous materials, while the new construction will improve ventilation and use materials that are selected to minimize emissions. The seismic renovation of the building will strengthen the structure, and the exterior masonry and details will be anchored, thus significantly increasing its life-safety performance in the event of an earthquake. Fire sprinklers, alarms and other safety features will also be included in the renovation.

The Campus Master Plan should value the environment and strive to promote the conservation of natural resources.

- The re-use of existing buildings is one of the most resource-efficient strategies available to an institution. The preservation of Anderson Hall will also include the use of low-toxicity materials as well as sustainability harvested materials and renewable resources. Building systems, including electrical and plumbing systems, will be selected for their efficiency and mechanical systems will be minimized through the use of natural ventilation. The recycling and reuse of construction and demolition waste, to keep materials out of the waste stream, will be required of the contractor. The renovation will be designed to achieve at least Leadership in Environmental and Energy Design (LEED) Silver requirements.
- The opportunity to use new landscaping that will allow for more daylighting opportunities into the ground floor.

Site development will conform to the stated Open Space, Circulation and Development Objectives, specifically:

- Incorporating accessibility to and into the building as an integral design element;
- Editing the overgrown existing plantings to address security issues.

Site Development will conform to the Master Plan Objectives by Area, as follows:

- Maintain, conserve and build on the existing historic character, and complement the existing site context;
- Ensure that the character of new and renovated buildings and open spaces complement the existing context;.
- Renew and rehabilitate buildings, infrastructure and the landscape;
- Ensure that new elements in the landscape, such as signage, bike facilities, and service areas, do not detract from the quality of the environment.

(b) Campus Facilities Plan

The June 2004 *University of Washington Building Restoration and Renewal Prioritization Study.* Constructed in 1925, Anderson Hall needs major improvements and replacement of all major building systems. It is one of the 15 buildings in greatest need of renovation on the Seattle campus. Based on the weighted criteria developed as part of this plan, and the surge fit planning for the use of Condon Hall as temporary surge space, Anderson Hall is prioritized for renovation in Phase V of the “Restore the Core” program and scheduled for predesign/design in 2009-11 and construction in 2011-13. A brochure providing an overview of the “Restore the Core” program is included in the appendix. The “Restore the Core” study can be viewed at http://www.washington.edu/admin/pb/home/pdf/bldg-restor-final-study.pdf.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. This project is a key step in the long-term capital plan to restore the University of Washington core academic facilities systematically over the next 10 to 15 years. The University of Washington’s request for predesign and design funding for a renovation of

Anderson Hall is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - The Anderson Hall Renovation will provide state of the art classrooms with configuration and the technology needed to support modern teaching methods
  - Bringing the building up to current Americans with Disabilities Act (ADA) code requirements will improve universal access to programs located in the building.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - Good quality research and teaching space is a prime factor in attracting and retaining the highest caliber of faculty and staff.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - Global warming, biodiversity, sustainable forestry are all "grand challenges" the College of Forestry is engaged with. A renovation of this magnitude that allow for the reconfiguration of all interior spaces recreates an opportunity to "right size" offices and laboratories improving efficiency and usefulness. Important colocation needs will be addressed. Spaces for informal interaction are enhanced. These design factors contribute to a stronger and more productive professional community.
- Maintain and build resources, infrastructure, and facilities to ensure the highest level of integrity, compliance and stewardship.
  - The building will achieve LEED Silver requirements.
  - Life cycle costing has been used in the design process to make decisions that help ensure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

Anderson Hall is the eighth priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and our fourth priority within the Renovation category.

7. Age of Building Since Last Major Remodel:

a. Identify the number of years since the last substantial renovation of the facility. If only one portion of a building is to be remodeled, provide the age of that portion only. If the project involves multiple wings of a building that were constructed or renovated at different times, calculate and provide a weighted average facility age, based upon the gross square feet and age of each wing.

Anderson Hall was constructed in 1925 and had a partial renovation in 1968. Anderson Hall has not had a major infrastructure upgrade in **40 years** and some systems are original.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. Condition of Building:

a. Provide the facility's condition score (1 superior – 5 marginal functionality) from the 2008 Comparable Framework study, and summarize the major structural and systems conditions that resulted in that score. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

Anderson Hall is rated a 4 in the 2008 Comparable Framework. A 2008 Comparable Framework summary and a more detailed Consolidated Building Audit performed by the University of Washington's Campus Engineering group in 2008 is provided in the Appendix.

b. Identify whether the building is listed on the Washington Heritage Register, and if so, summarize its historic significance.

Anderson Hall is not listed on the Washington Heritage Register.

10. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, or energy code requirements. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

A building conditions audit is located in the appendix. Applicable standards or codes are included in the document. A thorough review of relevant codes and standards is conducted during the predesign process.

The project scope assumes major renovation of the facility including the following:
- Correct seismic, structural, and life and safety code conditions deficiencies;
- Waterproof, repair, and seal stone foundation walls and install perimeter drainage;
- Provide ADA compliant restrooms and correct other ADA non-conformances;
- Add an elevator;
- Provide emergency power service;

- Replace major building systems, controls, meters, and utility lead-ins;
- Replace all windows and doors with energy efficient units matching existing units;
- Upgrade primary power service and main electrical equipment;
- Replace interior doors, hardware, finishes, and equipment;
- Abate asbestos containing materials and other hazardous materials;
- Clean, repair, re-point, and seal exterior brick and terra cotta;
- Improve existing site and landscape including irrigation; and
- Meet state requirements for LEED Silver certification.

In addition the following reports provide relevant building condition information and are available upon request:

- October 1991 *UW Earthquake Readiness Advisory Committee Report* established priorities for the seismic retrofitting of major capital facilities based on seismic condition studies, damage potential and life safety hazard. Anderson Hall was ranked in the second highest priority category in terms of potential damage. Building in this category are consider to have high damage potential and moderate life safety hazard.
- July 2008 Exterior Envelope Study for Anderson Hall and Miller Hall notes that the majority of the masonry wall is in good condition. The recommended work focuses on low slope roof, parapets and gutters, windows, and foundation waterproofing.

11. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Anderson Hall	***University of Washington, Seattle, WA***	***33,543***	***$21,750,000***	***$648.42***	***Dec 2012***	***0%***	***$648.42***
Clark Hall	University of Washington, Seattle, WA	30,568	$18,054,000	$605.34	Mar 2009	17.0%	$708.25
Lewis Hall	University of Washington, Seattle, WA	33,300	$25,130,000	$756.65	Dec 2010	7.2%	$808.99

Wallenberg Hall	Stanford University, Palo Alto, CA	71,400	$30,513,500	$427.36	June 2002	55.2%	$663.26
Page Hall Renovation	Ohio State, Columbus, OH	59,370	$36,477,000	$614.40	Sept, 2004	41.4%	$868.76
Rayzor Hall	Rice University Houston, TX	31,481	$8,233,211	$261.53	Dec 2001	57.6%	$412.17
Building 160	Stanford University Palo Alto, CA	71,400	$26,558,879	$371.97	Jun 2002	55.2%	$577.30

12. 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.

All classrooms, instructional labs, offices spaces in the proposed renovation of Anderson Hall will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility: 21,359 asf

(b) Gross square feet (GSF): 33,563 gsf

(c) Net building efficiency (ASF divided GSF): 64%

13. Adequacy of Space:

Describe whether and the extent to which the project is needed to meet modern pedagogical standards and/or to improve space configurations, and how it would accomplish that.

A building renovation is needed to support the College of Forestry to continue its efforts to integrate programs through two themes: sustainable forest enterprises, and sustainable land and ecosystem management in an urbanizing world. The key unifying theme of sustainability brings an interdisciplinary set of social, biological, and physical sciences and skills to bear on understanding, managing (including restoring and preserving), and using the products and amenities of forests, wild lands, and urban and suburban ecosystems so that they are maintained in a healthy, productive state for future generations.

The current building configuration creates obstacles to this integrated model through a warren of isolated office areas, obsolete classroom design, and obsolete infrastructure. Improvements would include:

Upgraded building systems including:

  - power (the added power demands for current multi media equipment frequently exceed the available circuitry in older rooms/buildings);
  - revamped lighting with controllable lighting levels necessary for the multi media equipment and presentations;
  - new acoustic properties to enhance the understandability of the spoken word (both instructor-to-student as well as student-to-student and student-to-instructor interchanges);
  - improved building ventilation, cooling and heating to solve the current problems of rooms that are either too cold or too hot, and
  - upgraded life safety (seismic upgrades, fire system upgrades).
- New multi-media infrastructure and equipment including
  - Conduit/pathways between multi-media equipment and the instructors;
  - Digital projection and playback equipment permanently installed in the classrooms (e.g. data projectors, DVD players);
  - Program sound systems (for playing back sound tracks on PowerPoint embedded materials, educational DVDs, etc.);
  - Integrated equipment and room controls allowing quick and seamless transition from computer displays, digital programs (e.g. DVDs), document cameras, etc.; and
  - Course capture equipment for automatic recording of courses and presented course materials for student review and study.
- New student furniture that supports
  - the ergonomic requirements demanded by the changing class patterns (moving from 50-minute class sessions to 90 and 120 minute class sessions);
  - growing use of laptop computers by students;
  - the change from “lecture” to “active learning” requiring easily reconfigurable tables/chair furniture vs the old “fixed to the floor” tablet-arm chairs; and
  - the recognition that classrooms should be welcoming and comfortable to enhance student understanding and learning.
- Upgraded and new compliance with federal and state accommodation requirements for students and instructors with special needs (i.e., ramps; height adjustable furniture; assisted listening systems, etc).
- Upgraded spaces outside the classrooms (e.g., lobbies and hallways) that allow students to gather in small groups with each other or with instructors in ad hoc and informal learning spaces (as a continuation of the formal learning taking place inside the classroom.)
- The ability to create new types of classrooms, such as Case Study style rooms; small group breakout rooms; multi media enriched classrooms, etc.
- Other opportunities will be explored in the predesign process.

14. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab)	12,020	56%
Student Advising/Counseling Services, TA offices	457	2%
Childcare	0	0%
Faculty offices	4,074	19%
Administrative	4,808	23%
Maintenance, circulation, restroom (non assigned spaces)	0	0%
Total	21,359	100%

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20091002**
Project Title: **Anderson Hall Renovation**

Description

Starting Fiscal Year: 2009
Project Class: Preservation
Agency Priority: 10

Project Summary

In 2009-11 the University of Washington is requesting state funding of $2,500,000 for the pre-design study and design phase for the renovation of Anderson Hall. This building was constructed in 1925. Anderson Hall houses the College of Forest Resources, The Ecosystems Sciences and Conservation Division and the Institute for Forest Resources. Anderson Hall is primarily an office and instructional building. Anderson Hall is one of fifteen buildings identified in the "Restore the Core" program of major building renovations described in the June, 2004 UW Building Restoration and Renewal Prioritization Study. This study is the culmination of work and analysis by an ad hoc committee appointed in 2002 by the Provost to evaluate, prioritize and develop a restoration plan. The study includes a priority list of buildings in dire need of major restoration and a plan for surge space during construction. This renovation project will address the Priority II ranking by the Earthquake Readiness Advisory Committee (ERAC) report of 1992. This ranking indicates that the building is in need of extensive structural support strengthening to better resist the lateral forces generated by earthquakes. This renovation project will address the major building deficiencies. Surge space needs will be addressed through the utilization of Condon Hall.

Project Description

In 2009-11 the University of Washington is requesting state funding of $2,500,000 for pre-design report and design phase for the renovation of Anderson Hall. Anderson Hall was constructed in 1925 and is located on the Seattle campus. This three story building has a partial basement and is primarily an office and instructional facility for the College of Forest Resources, The Ecosystems Sciences and Conservation Division and the Institute for Forest Resources. This renovation project will address the building infrastructure systems, seismic, and access deficiencies. This project will provide remedies to the major interior and exterior systems including replacement of heating, ventilation, plumbing, electrical fire protection and alarm systems. The exterior masonry requires a complete cleaning and tuckpoint process to prevent further water infiltration into the building interior. Accessibility in Anderson Hall is severely limited by the lack of an elevator. An elevator will be installed to provide access to upper floors and meet ADA requirements. Anderson Hall is one of the buildings in the "Restore the Core" program. This list includes a significant representation of fifteen core academic buildings that are an integral part of the Seattle campus. Ten of the fifteen buildings on the list contain 80 general assignment classrooms, approximately one-fourth of all Seattle Campus general assignment classrooms. These buildings have occupied a prominent position in the University's history and culture throughout most of the twentieth century. As with other buildings in the "Restore the Core" plan, occupants of Anderson Hall will be temporarily housed in surge space in Condon Hall during the construction phase. The estimated total project budget is $21,750,000.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

See GMA Questionaire

Funding

OFM

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20091002**
Project Title: **Anderson Hall Renovation**

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	24,250,000				2,500,000
	Total	**24,250,000**	**0**	**0**	**0**	**2,500,000**

		Future Fiscal Periods 2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State	21,750,000			
	Total	**21,750,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2009	12/01/2009
Design	4/1/2010	10/1/2011
Construction	7/1/2011	12/1/2012

	Total
Gross Square Feet:	33,543
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	343
Construction Type:	College Classroom Facilities
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	9.83%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		159,315	0.7%
Construction Documents		968,081	4.5%
Extra Services		624,339	2.9%
Other Services		701,054	3.2%
Design Services Contingency		374,327	1.7%
Consultant Services Total		**2,827,116**	**13.0%**
Maximum Allowable Construction Cost(MACC)	**11,516,956**		
Site work		0	0.0%
Related Project Costs		0	0.0%

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20091002
Project Title: Anderson Hall Renovation

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Facility Construction	11,516,956	53.0%
GCCM Risk Contingency	271,421	1.3%
GCCM or Design Build Costs	1,427,300	6.6%
Construction Contingencies	1,727,543	7.9%
Non Taxable Items	0	0.0%
Sales Tax	1,344,890	6.2%
Construction Contracts Total	**16,288,110**	**74.9%**
Equipment		
Equipment	568,100	2.6%
Non Taxable Items	0	0.0%
Sales Tax	51,129	0.2%
Equipment Total	**619,229**	**2.9%**
Art Work Total	**57,585**	**0.3%**
Other Costs Total	**384,775**	**1.8%**
Project Management Total	**1,573,185**	**7.2%**
Grand Total Escalated Costs	**21,750,000**	
Rounded Grand Total Escalated Costs	**21,750,000**	

Operating Impacts

No Operating Impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 30
Cost Estimate Title: Anderson Hall Renovation
Report Number: CBS003
Date Run: 8/13/2008 8:41AM

Version: 01 2009-11, Draft
Agency Preferred: Yes
Project Number: 20091002
Project Title: Anderson Hall Renovation
Project Phase Title:

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	33,543
Usable Sq. Ft.:	0
Space Efficiency:	0%
MACC Cost per Sq. Ft.:	302
Escalated MACC Cost per Sq. Ft.:	343
Remodel?	Yes
Construction Type:	College Classroom Facilities
A/E Fee Class:	B
A/E Fee Percentage:	9.83%

Schedule

	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	10-2011
Construction:	07-2011	12-2012
Duration of Construction (Months):	17	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		159,315	
Construction Documents		968,081	
Extra Services		624,339	
Other Services		701,054	
Design Services Contingency		374,327	
Consultant Services Total			**2,827,116**
Site work		0	
Related Project Costs		0	
Facility Construction		11,516,956	
Construction Contingencies		1,727,543	
Non Taxable Items		0	
Sales Tax		1,344,890	
Construction Contracts Total			**16,288,110**
Maximum Allowable Construction Cost(MACC)	**11,516,956**		
Equipment		568,100	
Non Taxable Items		0	
Sales Tax		51,129	
Equipment Total			**619,229**
Art Work Total			**57,585**
Other Costs Total			**384,775**
Project Management Total			**1,573,185**
Grand Total Escalated Costs			**21,750,000**
Rounded Grand Total Escalated Costs			**21,750,000**

Additional Details

Alternative Public Works Project: Yes

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 30
Cost Estimate Title: Anderson Hall Renovation

Report Number: CBS003
Date Run: 8/13/2008 8:41AM

Version: 01 2009-11, Draft
Project Number: 20091002
Project Title: Anderson Hall Renovation
Project Phase Title:

Agency Preferred: Yes

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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360 - University of Washington
Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number: 30 **Analysis Date:** July 22, 2008
Cost Estimate Title: Anderson Hall Renovation

Detail Title: Anderson 09-11
Project Number: 20091002
Project Title: Anderson Hall Renovation
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.: 33,543
Usable Sq. Ft.:
Rentable Sq. Ft.:
Space Efficiency:
Escalated MACC Cost per Sq. Ft.: 343
Escalated Cost per S. F. Explanation

Construction Type: College Classroom Facilities
Remodel? Yes
A/E Fee Class: B
A/E Fee Percentage: 9.83%
Contingency Rate: 10.00%
Contingency Explanation

Management Reserve: 5.00%
Projected Life of Asset (Years):
Location Used for Tax Rate: Seattle
Tax Rate: 9.00%
Art Requirement Applies: Yes
Project Administration by: AGY
Higher Education Institution?: Yes
Alternative Public Works?: Yes

Project Schedule	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	10-2011
Construction:	07-2011	12-2012
Duration of Construction (Months):	17	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 10,136,381
MACC (Escalated):	$ 11,516,956
Current Project Total:	$ 19,422,426
Rounded Current Project Total:	$ 19,422,000
Escalated Project Total:	$ 21,750,000
Rounded Escalated Project Total:	$ 21,750,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	150,000			
SubTotal: Pre-Schematic Design Services		**150,000**	1.0621	**159,315**
Construction Documents				
A/E Basic Design Services	892,158			
SubTotal: Construction Documents		**892,158**	1.0851	**968,081**
Extra Services				
Civil Design (Above Basic Services)	30,000			
Geotechnical Investigation	20,000			
Commissioning (Systems Check)	45,000			
Site Survey	10,000			
Testing	65,000			
Leadership Energy & Environment Design List(LEED)	50,000			
Voice/Data Consultant	20,000			
Value Engineering Participation & Implementation	10,000			
Constructability Review Participation	15,000			
Landscape Consultant	40,000			
Acoustical Consultant	15,000			
Haz Mat Consultant	50,000			
Elevator Consultant	5,000			
Communications Consultant	10,000			
Graphics	5,000			
Interior Design	35,000			
Other	35,000			
Partnering	2,000			
Quality Control Consultant	10,000			
Electronic AudioVisual	20,000			
Reimbursables/Doc Repro	40,000			
Indoor Air Quality Consultant	10,000			
Lighting Design and Calculations	10,000			
Site Survey	10,000			
Specialty Consultants	13,375			
SubTotal: Extra Services		**575,375**	1.0851	**624,339**
Other Services				
Bid/Construction/Closeout	367,016			
HVAC Balancing	80,000			
Constuction Support	170,000			
SubTotal: Other Services		**617,016**	1.1362	**701,054**
Design Services Contingency				
Design Services Contingency	223,455			
Change Order Design Allowance	106,000			
SubTotal: Design Services Contingency		**329,455**	1.1362	**374,327**
Total: Consultant Services		**2,564,004**	1.1026	**2,827,116**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	9,555,394			
Additional Escalation	580,987			
SubTotal: Facility Construction		**10,136,381**	1.1362	**11,516,956**
Maximum Allowable Construction Cost (MACC)		**10,136,381**	1.1400	**11,516,956**
GCCM Risk Contingency				
GCCM Risk Contingency	238,885			
SubTotal: GCCM Risk Contingency		**238,885**	1.1362	**271,421**

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
GCCM or Design Build Costs				
GCCM Fee	450,993			
Bid General Conditions	413,993			
GCCM Preconstruction Services	200,000			
Construction Support Services	191,219			
SubTotal: GCCM or Design Build Costs		**1,256,205**	1.1362	**1,427,300**
Construction Contingencies				
Management Reserve	506,819			
Allowance for Change Orders	1,013,638			
SubTotal: Construction Contingencies		**1,520,457**	1.1362	**1,727,543**
Sales Tax		**1,183,673**	1.1362	**1,344,890**
Total: Construction Contracts		**14,335,601**	1.1362	**16,288,110**
EQUIPMENT				
E10 - Equipment	150,000			
E20 - Furnishings	350,000			
SubTotal:		**500,000**	1.1362	**568,100**
Sales Tax		**45,000**	1.1362	**51,129**
Total: Equipment		**545,000**	1.1362	**619,229**
ART WORK				
Total: Art Work		**57,585**	1.0000	**57,585**
OTHER COSTS				
Permit, Insurance, Connectivity	347,051			
Total: Other Costs		**347,051**	1.1087	**384,775**
PROJECT MANAGEMENT				
Agency Project Management	1,135,185			
Contract Construction Management	398,000			
Preactive PM Fees	40,000			
Total: Project Management		**1,573,185**	1.0000	**1,573,185**

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360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

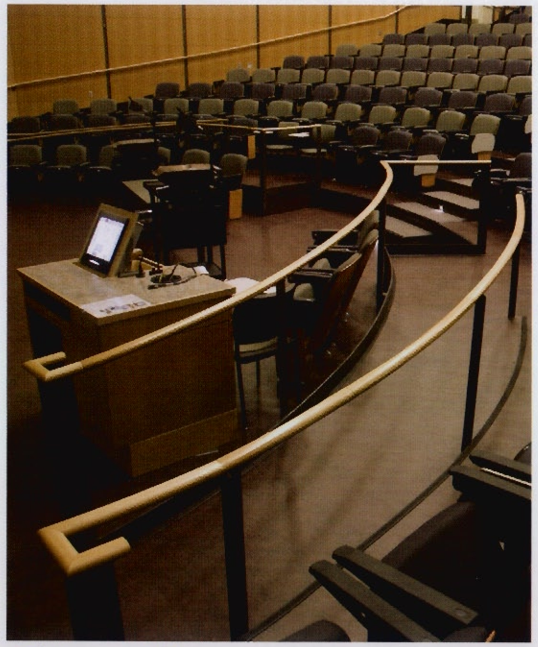
*

Cost Estimate Number: 30
Cost Estimate Title: Anderson Hall Renovation

Report Number: CBS003
Date Run: 8/13/2008 8:41AM

Parameter	**Entered As**	**Interpreted As**
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20091002	20091002
Cost Estimate Number	30	30
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

The Results



Architecture Hall

Guggenheim Hall

The Next Phase

DENNY HALL opened in 1895 and is the oldest building on campus. It was named for Arthur Denny, the pioneer who donated the majority of the University's original 10-acre downtown tract. Denny Hall is home to the Departments of Anthropology, Classics, Germanics, and Near East Studies.

Denny Hall, then and now

LEWIS HALL is among the oldest buildings on campus, and was built as a dormitory for men in 1899. Named after the famous Pacific Northwest explorer Meriwether Lewis, Lewis Hall is the future home of the Information School.

Lewis Hall, then and now

BALMER HALL will be completely rebuilt as a component of the University's new Business School Complex.

The Benefits

REFURBISHED BUILDINGS WILL:

- Meet current seismic and safety requirements
- Provide modern technology to students, faculty and staff
- Conserve resources through sustainable design and LEED® Silver certification

RESTORE THE CORE'S efficient schedule allows projects to be completed in a four-year span, rather than six. This accelerated schedule has saved $18 million in state funds to date.

- Architecture Hall: $4.7 million saved
- Guggenheim Hall: $6.1 million saved
- Johnson Hall: $7.2 million saved

GENERATIONS of Washington citizens have helped create the campus facilities that support a world-class education at the University of Washington. The Restore the Core program will ensure these benefits for future generations.

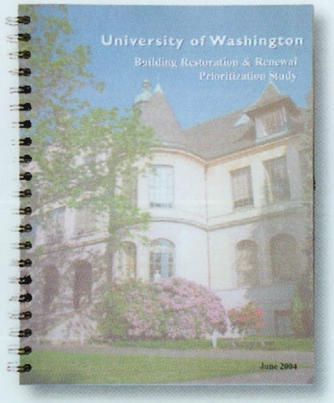
Consultants: Ira Fink and Associates, Inc.
Otak, Inc.

RESTORING THE CORE

The University of Washington's major program of building restoration is at the halfway mark

The Plan

THE UNIVERSITY'S *Building Restoration & Renewal Prioritization Study* of 2004 established a plan to renew and renovate fifteen significant buildings on the Seattle Campus.



The deteriorating condition of these buildings—providing more than 900,000 gross square feet, and housing more than 40 academic programs—was threatening our ability to deliver core campus functions in teaching, research, and public service.

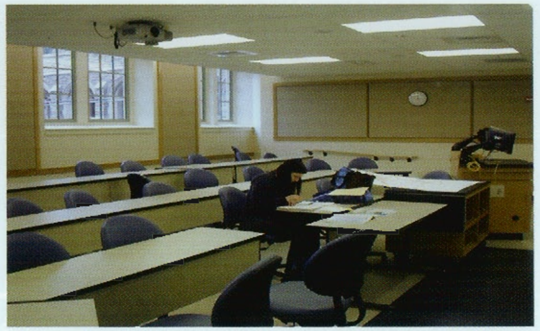
In recognition of the need to protect and renew the priceless resource that our academic buildings represent, the University has focused its attention on restoring our core campus facilities so that they may be used and enjoyed by future generations.

Restoration Schedule

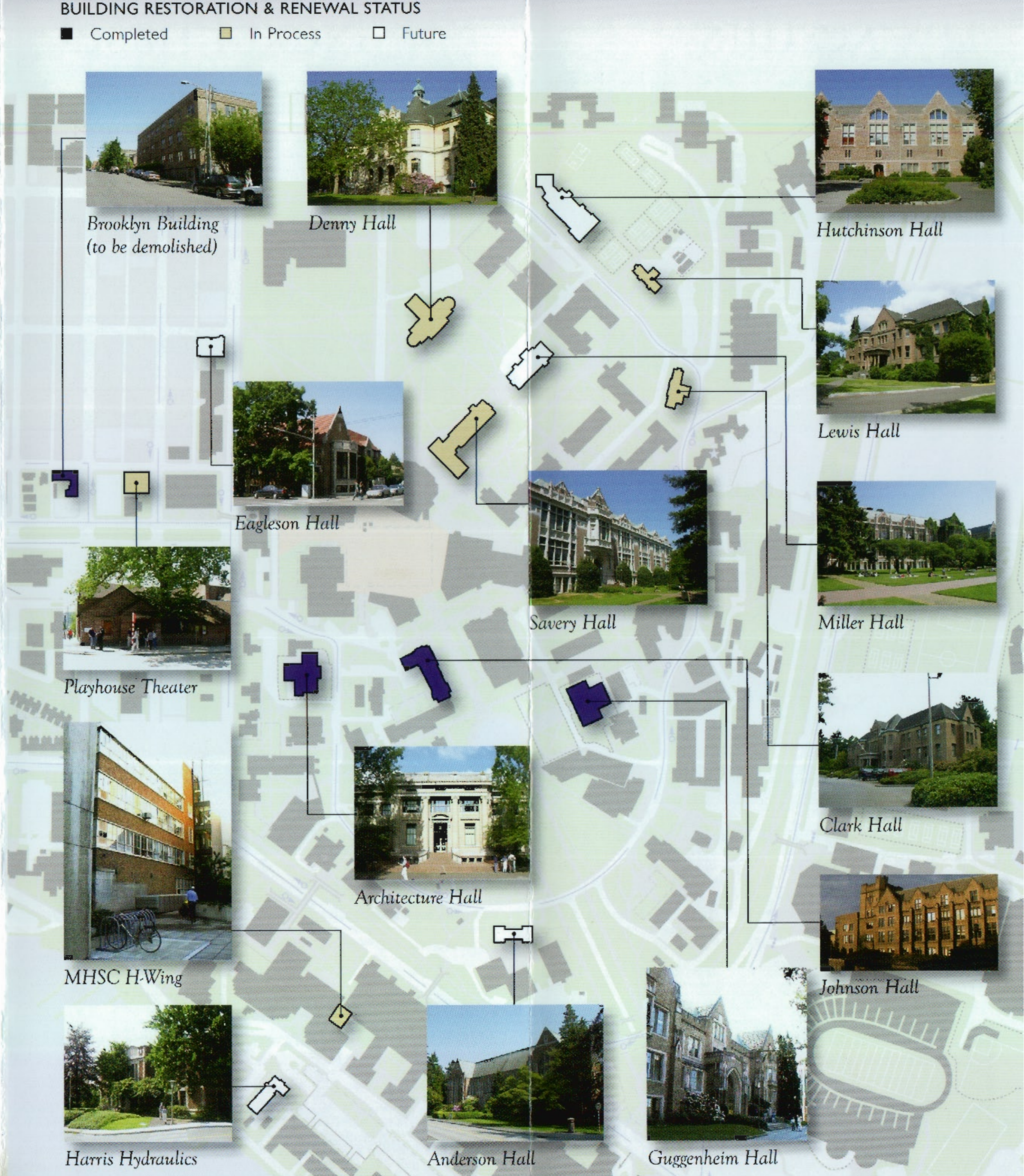
PHASING SCHEDULE	Phase I 2003–2005	Phase II 2005–2007	Phase III 2007–2009	Phase IV 2009–2011	Phase V 2011–2013	Phase VI 2013–2015
PLANNING/ DESIGN	Architecture Hall Guggenheim Hall	Savery Hall Clark Hall Playhouse Theater MHSC H-Wing	**Denny Hall** **Lewis Hall** **Balmer Hall**	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall	—
CONSTRUCTION	Johnson Hall	Architecture Hall Guggenheim Hall	**MHSC H-Wing** **Savery Hall** **Clark Hall** **Playhouse Theater**	Denny Hall Lewis Hall Balmer Hall	Miller Hall Anderson Hall	Hutchinson Hall Harris Hydraulics Eagleson Hall

The Progress

Construction funding for the renovation of Johnson Hall was approved by the state in the 2003-2005 capital budget.



Renovation of Johnson Hall was completed in 2005.



University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

Date: July 10, 2008 B&P #091 (1351)

Consolidated Building Audit for:

Anderson Hall

By: Campus Engineering

General

This audit reflects the status of existing building system components and infrastructure of Anderson Hall and any known maintenance and/or operational issues related to these systems. Included are preliminary recommendations for addressing the issues related to these systems.

This audit is the result of “brief” site investigations performed for this building. Please note that our audit does not replace the need of a detailed investigation/evaluation. Existing conditions and known problems are pointed out now for awareness and so that they are addressed early.

Description:

Anderson Hall was designed by Bebb & Gould Architects and was constructed in 1925-26 for the Forestry Department. It was funded by a gift from Agnes H. Anderson in memory of her husband Alfred H. Anderson. This building is a three-story concrete structure with brick and cast stone cladding. The building has 33,543 gross square feet with 21,417 assignable square feet space. The building occupancy is 526.
The interior was remodeled in 1968 by Grant Copeland Chervenak Architects.

BUILDING CONDITIONS: ARCHITECTURE

The following are the results of an audit of the condition of the architectural elements of Anderson Hall. The ratings noted are based on an evaluation of the years of usable service left in a component. A poor rating means replacement to approximately 5 years of service remaining; a fair rating means 5 to 15 years of service remaining; and a good rating means 15 years to 25 years of service remaining.

Site

Background/Problems:
The site is heavily landscaped with mature plantings at all sides in good condition. There is a courtyard that is shared with Bloedel and Winkenwerder Hall to the south. Courtyard surface is concrete pavers in good condition. There are several wood benches in good condition. Area is accessible via a ramp at the west parking area.

Recommendations:
Continue scheduled maintenance and replace elements when renovated or when they reach the end of the life cycle.

Consolidated Building Audit for:

Anderson Hall

By: Campus Engineering

Exterior Facade

Background/Problems:
The façade is brick veneer and grey to pink cast stone window sills, tracery and decorative elements over a concrete frame with brick backup. There is a history of water leaks in the upper story east wall that has resulted in damage to interior walls and finishes. This problem was corrected in the winter of 1999-00 by University masons and roofers. At that time the masons also performed a masonry renewal consisting of cleaning, tuck pointing and sealing of the entire building façade. During that renewal, temporary repairs were made to rusty ledger angles and to cast stone elements where damage was severe.

Recommendation:
Continue scheduled maintenance. Perform detailed survey to determine extent of deterioration of the façade elements design remedial measures. The 99-00 masonry renewal did not attempt to restore all elements of the façade and additional restoration can be expected.

Roof

Background/Problems:
The main roof consists of a steep slope section covered with slate shingles, a top flat portion covered with built-up and gravel roofing, and gutters made of copper and coated with an aluminum emulsion. The flat BUR roof is in fair condition. The slate roof is in good condition with some atmospheric dirt. There is not a fall protection system in place.

Recommendations:
Continue scheduled maintenance and replace roof systems at the end of their life cycles. Clean slate roof to improve appearance.

Windows

Background/Problems:
Windows are original, single glazed, steel sash units and do not meet current energy codes. Surrounding trim and tracery are grey/pinkish cast stone in fair condition.

Recommendation:
Continue scheduled maintenance and replace windows when renovated. Repair damage to cast stone trim, tracery and decorative elements as revealed by exterior condition survey.

Entries and Exterior Doors

Background/Problems:
Main, north, entry doors are original clear finish double solid core wood with leaded glass relites. The arched transom is clear finished wood with ornate leaded glass and bronze or brass medallions. Door hardware is bronze or brass pulls and hinges. All components are original and are worn but in overall fair condition. The portico or porch is grey to pink decorative cast stone in good condition.

Recommendations:
Continue scheduled maintenance. Refurbish front entry doors as required or when renovated. Refurbish auxiliary doors as required and replace when renovated.

Floors and Finishes

Background/Problems:
The corridor floor finish is typically terrazzo in fair condition. Some corridor sections are concrete or VCT/VAT in fair condition. The classrooms are typically VCT in fair condition. There is carpet in some offices and in the large seminar rooms and is in fair to poor condition. Restrooms have ceramic tile in fair condition.

Recommendations:
Continue scheduled maintenance and replace all floor finishes at the end of the life cycle or where affected by renovation.

Walls and Finishes

Background/Problems:
Walls are painted GWB and plaster in good condition. Restrooms have tile wainscots in fair condition.

Recommendations:
Continue scheduled maintenance and replace at end of the life cycle or when renovated.

Ceilings and Finishes

Background/Problems:
Ceilings are a combination of painted concrete, glued on ACT and suspended ACP. All are in generally good to fair condition. The large seminar rooms have vaulted ornate carved wood ceilings in good condition.

Recommendations:
Continue scheduled maintenance and replace at end of the life cycle or when renovated. Retain and refinish seminar ceilings.

Doors and Hardware

Background/Problems:
Doors are solid core wood with a transparent finish. Most doors have knob type hardware and some have lever hardware. All doors and hardware are in generally good condition.

Recommendations:
Continue schedule maintenance. Refinish doors retained in renewal and provide ADA compliant hardware.

Interior Stairs

Background/Problems:
Interior stairs have decorative terrazzo treads and concrete risers. Stair mounted handrails are clear finished wood with cast iron decorative newel posts and balustrades. Wall mounted handrails are clear finished wood and are ADA compliant.

Recommendations:
Continue scheduled maintenance. Retain stairs as when renovated.

Vertical Transportation

Background/Problems:
There is not an elevator in this building.

Recommendation:
To provide accessibility and conform to the law, current codes and UW policy provide accessibility to all programs and services. Provide either an elevator, wheelchair lift(s) or administrative program management to meet accessibility requirements.

ADA Accessibility

Background/Problems:
To provide accessibility and conform to the law, current codes and UW policy provide accessibility to all programs and services. Provide either an elevator, wheelchair lift(s) or administrative program management to meet accessibility requirements.

Recommendations:
Provide accessibility to the building, essential facilities and programs when renovated.

Miscellaneous Issues

Background/Problems:
In the tunnels\trenches below the Ground Floor there is an ongoing issue with water infiltration and mold\mildew. A fan was added on the east side to ventilate the areas and reduce the moisture. Some remedial cleaning was done however the entire area was not addressed.

Recommendation:
Determine the source of water infiltration and mitigate. Clean and seal the tunnel\trench system.

BUILDING CONDITIONS: STRUCTURAL

Background/Problems:
Anderson is an “I” shape building approximately 38’x70’ at east and west wings and 52’x80’ at the middle section. Anderson is a 70’ high 5-story building, the north entrance is four floors above grade and one floor below grade, south side of Anderson is at grade which is at elev. 77.61’. The building is symmetrical along center lines.

There is 470’ of tunnel and 130’ of trenches below the building. In 1968, a new 6’ wide by 7’ high tunnel was added to the south of Anderson. The bottom of new tunnel is at elev. 64.0’.

Along the ridge of Anderson in east-west direction, there are ten 4’-8” x 14’-4” skylight openings and two other openings at 2’x8’ and two others at 2’x2’-6”. The roof is pitched at 8.5” horizontal and 12” vertical, the slab is 4” to 5” reinforced concrete. The middle portion of roof is supported on reinforced concrete frames at 15’-8” oc. The east and west wings are supported on steel frames at 10’-11” oc and steel joists at 4’-6” oc.

Typical floors on first, second and third story are reinforced pan joists and beams on square columns. There are two interior stair wells which are constructed of 6” reinforced concrete walls on three sides of stairs. A concrete slab was poured at attic (elev. 133.44’) in 1969.

North basement wall below grade is reinforced concrete; the wall also extended 13’ east and west as retaining wall. The exterior wall is unreinforced brick and cast stone. The interior wall is 4” hollow tile. The 1969 installation of interior wall was metal stud with gypsum wall board.

The skylights were boarded up sometime after 1969. There is no record of the exact date.

This 1925 structure is a C3 type building – Concrete Frames with Infill Masonry Shear Wall and Stiff Diaphragms – by ASCE 31-03 classification, some steel joists are used as part of the roof frame.

Building was designed and constructed prior to the adoption of modern seismic codes.

Recommendations:
Evaluate seismic load-resisting ability of the existing lateral system base on ASCE 31-03 to determine if it meets a “Life Safety” performance level (as defined by ASCE 31).

Background/Problems:
In the 1925 construction, there were ten 4’-8”x14’-4” skylights plus four smaller openings on the roof which weaken the roof diaphragm considerably.

Recommendations:
Currently, the openings are covered with wood deck, it is recommended to install cross bracing or cast concrete slab at the openings.

Background/Problems:
There is no record of reinforcing steel in the masonry wall.

Recommendations:
Conduct in-place shear tests and out-of-plane load evaluation of masonry wall. All deteriorated mortar joints should be pointed.

Background/Problems:
The concrete slab at attic is under-reinforced; shrinkage crack is noticed in both directions at less than 5’-0” apart.

Recommendations:
Epoxy grout all cracks in excess of 1/16” wide.

Background/Problems:
The tunnel walls are 6” thick, the top and bottom slabs are 4” thick and they are lightly reinforced. The column foundations are higher than the bottom of tunnels which impose surcharge load on the walls. This area is in the asbestos exposure area which is out of limit for my walk-through evaluation.

Recommendations:
The tunnel walls and slabs need inspection and evaluation.

Background/Problems:
The form-work for reinforced roof beams was poorly done, the bars were placed too low in certain areas which left some rebars exposed.

Recommendations:
Rebars need minimum concrete coverage for fire protection and bonding.

Background/Problems:
Due to inaccessibility and lack of detail drawings, it is unclear how steel beams are connected to reinforced concrete beams or walls.

Recommendations:
Steel to concrete connection needs to be inspected and evaluated as required.

BUILDING CONDITIONS: MECHANICAL

Utility Tunnel Piping Systems

Background/Problems:
Anderson Hall is served by the central utilities: 6” low pressure steam (12 psi), 1-1/4” pumped condensate return, and 1” compressed air (120 psi). The compressed air piping is galvanized. These utilities are run direct buried in conduit from the Lower Campus Tunnel Manhole LC 8-1 and enter Anderson Hall in the basement on the south side.

The steam, condensate, and compressed air piping is beyond its life service.

Recommendation:
Provide a meter connected to building DDC control system for the condensate system. Abate insulation and replace steam, condensate and compressed air piping. Provide tunnel or utilidor from Manhole LC 8-1 to Anderson Hall.

Plumbing Systems

Background/Problems:
The 2-1/2” domestic water system is galvanized. A steam to water converter provides domestic hot water for the building. The sanitary sewer pipe is 6” and storm drain main pipe is 6”.

The water main has no strainer, backflow preventer, or meter. The plumbing fixtures are old and flush valves are not low flow. Sanitary sewer and storm drain pipes have exceeded their expected service life.

Recommendation:
Replace sanitary sewer and storm drain piping. Abate insulation and provide new water piping with strainer, backflow prevention, steam to water converter and a water meter connected to DDC control system. Replace existing fixtures with low flow toilets and urinals.

Heating, Ventilating and Air Conditioning Systems

Ventilation System

Background/Problems:
Parts of the building is served by an 11,540 cubic feet per minute (cfm) central supply fans and a 13,900 cfm exhaust fan for ventilation only. The system is relatively new and is in good operating condition. An exhaust fan serves the toilet rooms.

Recommendation:
Ventilation system should be upgraded along with central heating improvements.

Heating Systems

Background/Problems:
A shell and tube steam-to-hot water heat exchangers located in the basement mechanical room provides heating hot water for finned tube baseboard radiant heaters throughout the building perimeter. The tube of heat exchanger was replaced within 4 years prior to this report.

The heating system with its hot water recirculation pumps has exceeded its expected service life.

Recommendation:
Replace the heating system with a more efficient system.

Cooling Systems

Background/Problems:

No air conditioning is provided for the building.

Recommendation:
Not Applicable.

Environmental Control Systems

Background/Problems:
The control system has been problematic with many older Johnson Controls T9000 series controllers. There are approximately 6 JCI T9010 controllers per floor. Reverse acting thermostats send a signal to the T9010 which then opens or closes reheat valves. Controllers were recently replaced in the basement mechanical room for the heat exchanger and zone hot water.

Recommendation:
The control lines should be replaced. Older zone controllers should be replaced. All control valves should be replaced. Upgrade to a Direct Digital Control system.

Fire Protection Systems:

Refer to UW Environmental & Health Safety.

BUILDING CONDITIONS: CIVIL

Utility Distribution System

Water

Background/Problems:

- Records indicate the existing water service, which enters the building on the south side, connects to the existing 6-inch water main to the south. This water main was constructed in 1968 and is a combination water and fire main. Records also indicate the service to the building is 3-inch but reduces to 2-1/2 inches before entering the mechanical room. There is a water meter located in the mechanical room. Records indicate the water service is from the original 1924 construction but some of the external water service was updated in 1968. The fire department connection is located on the south face of the building at about the midpoint.

- There is no separate fire service to the building.

- There are no domestic water related problems noted for the building other then the taste of the water from the old pipes. As a result, the tenants use bottled drinking water. There was one incident of water leaking from a corroded metal pipe and damaging furniture. The building smells musty and old.

Recommendation:

- Due to age, and assuming the as-built records are accurate, the existing 2-1/2 -inch water service should be replaced.
- Provide a new water meter with connection to the DDC Control system. Coordinate with mechanical discipline.

Sanitary Sewer

Background/Problems:

- The side sewer from the building exists near the mechanical room. This 8-inch sewer pipe was upgraded in the 1968 remodel. Its condition and type are unknown. The sewer pipe continues south from Miller Hall and passes under Bloedel Hall in a tunnel.

Recommendation:

- Replace the side sewer if it is not in good condition, between the building and the tunnel. Install cleanouts at each bend in the pipe direction.

Storm Drainage

Background/Problems:

- The roof leaders on this structure are internal to the building. Records indicate long term problems with debris stopping the flow of rainwater to the outside conveyance pipe system. The tenants have reported water leakage into the building and maintenance history has shown this to be caused by debris in the downspout system. The roof leader conveyance pipe does not connect to the buildings sanitary sewer pipe system however the footing drain does connect to the roof downspout conveyance on each end of the building.

- The tile footing drains along the north building side are original to the 1924 construction of the building. Records indicate it does not extend all around the building foundation of the building. Continual dampness within the building may be an indication that the footing drains need to be extended and looped around the entire structure.

Recommendation:

- Replace roof leader conveyance pipe with 6-inch pipe. Also replace footing drain with non-tile pipe. Connect roof leader and footing drains to first downstream manhole. Provide cleanouts at changes in pipe direction. Consider moving connection between footing drains and roof downspout conveyance farther downstream from the building. Perhaps move to the CB in the courtyard.

BUILDING CONDITIONS: ELECTRICAL

Background:

- The major components of the Electrical system were manufactured by General Electric and appear to be in relatively good physical shape considering their age. Both the Main Distribution panels and the branch circuit panels have spares and/or spaces. The electrical system is marginally satisfactory for the current building function and should need no major work until the next major renovation.
- The users have issues with comfort during the winter and in several areas the combination of computers, printers and foot warmers is sufficient to cause the circuit breakers to trip.
- The only recent significant addition to the building electrical system is the addition of a feed from the campus Emergency Power Supply System (EPSS) and an ATS providing for more reliable power for life safety. The inverter system has been removed

Main Building Transformer & Service Entrance Equipment

Background/Problems:

- The building is fed from 233TR1 Via Bloedel Hall at 480 Volts to MDP-1. MDP-2 is fed from a CB located in MDP-1 via a 112.5kVA transformer of Tierney manufacture. All service equipment is located in room 16 at the lower level. The maximum demand recorded was 57kVA in December of 2003.
- The existing Service Entrance Equipment is quite old and replacement parts are not available.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated. The service must be replaced during the next major renovation. A connection directly to the 13.8kV distribution should be made to reduce the load on Bloedel hall.
- There are no repair recommendations at this time.

Emergency Power

Background:

- The building is connected to Central Campus.
- The ATS is new and will be reused in any future renovation efforts

Recommendations:

- None

Metering

Background/Problems:

- There is no normal power meter.
- Emergency power is centrally monitored

Recommendations:

- A centrally monitored metering system should be installed in the next renovation.

Distribution System

Background/Problems:

- The existing electrical distribution equipment is quite old but should serve until the next renovation.
- The existing conduit & wiring is quite old but should serve until the next renovation.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated. The entire electrical distribution system must be replaced during the next major renovation. All panel boards must also be replaced.
- There are no repair recommendations at this time.

Lighting Systems

Background/Problems:

- The majority of the lighting fixtures in the building are surface mounted 2x4.
- The existing switching and lighting control system does not meet current codes.
- Existing emergency lighting is via the old ‘X’ panel which is fed by the new connection to the campus EPSS.
- There are decorative period correct fixtures at the entries.

Recommendations:

- Continue scheduled maintenance and replace at the end of life cycle or when renovated.
- All light fixtures and controls must be replaced in the next renovation to meet current performance standards and the current codes.
- In the renovation the existing period correct fixtures in the auditorium, large meeting rooms and at the entries should be renovated and retrofit with efficient and modern sources.

Fire Alarm Systems

Background/Problems:

- The building is equipped with a Simplex 4100 that meets EH&S standards.
- The detectors and pull stations are of the old style

Recommendations:

- Continue scheduled maintenance and replace detectors and pull stations at the end of life cycle or when the building is renovated.

Miscellaneous Signal Systems

Background/Problems:

- The Master Clock System is of the old style.

Recommendations:

- Continue scheduled maintenance and replace the clock system with the new system at the end of life cycle or when the building is renovated.

Prepared by:
Architectural – S. Howard
Structural – KC Chen
Civil – J. Morin
Mechanical – B. Earhart
Electrical – K. McIntyre

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2008 Comparable Framework
Building Renewal, Repair, and Facility Improvements Summary
Anderson Hall

Category (Uniformat)	Description	Condition Score
Superstructure (A: Substructure)	Structural and seismic repairs: The building was designed and constructed prior to the adoption of modern seismic codes. The building is a three-story concrete structure with brick and cast stone cladding. Typical floors on first, second and third story are reinforced pan joists and beams on square columns.	4
Exterior (B: Shell)	Exterior repairs and renewal: The façade is brick veneer and grey to pink cast stone window sills, tracery and decorative elements over a concrete frame with brick backup. In 1999 University masons and roofers performed a masonry renewal consisting of cleaning, tuck pointing and sealing of the entire building façade but did not attempt to restore the all elements of the façade and additional restoration should be expected. Windows are original, single glazed, steel sash units and do not meet current energy codes. Surrounding trim and tracery are grey/pinkish cast stone in fair condition.	3
Roof & Envelope (B: Shell)	Repair and replace roofing and envelope: The main roof consists of a steep slope section covered with slate shingles, a top flat portion covered with built-up and gravel roofing, and gutters made of copper and coated with an aluminum emulsion. The flat roof is in fair condition. The slate roof is in good condition with some atmospheric dirt.	3
Interior (C: Interior)	Carpet replacement, painting, ceilings replacement and repairs: The corridor floor finish is typically terrazzo in fair condition. Some corridor sections are concrete or vinyl composition tile in fair condition. The classrooms are typically vinyl composition tile in fair condition. There is carpet in some offices and in the large seminar rooms and is in fair to poor condition. Restrooms have ceramic tile in fair condition. Walls are painted gypsum wall board and plaster in good condition. Restrooms have tile wainscots in fair condition. Ceilings are a combination of painted concrete, glued on acoustical tile and suspended acoustical panels. All are in generally good to fair condition. The large seminar rooms have vaulted ornate carved wood ceilings in good condition. All doors and	3

	hardware are generally in good condition.	
Conveying Systems (C: Interior)	Elevator repairs and renewal: There is not an elevator in this building. An elevator or wheelchair lift should be provided to meet accessibility requirements.	5
Mechanical Systems (B: Services)	Modernization, renewal, repair, and replacement of mechanical systems: plumbing and piping; and heating and ventilation. The steam, condensate, and compressed air piping is buried in conduit and beyond its service life. The domestic water system is galvanized pipe and should be replaced. The plumbing fixtures are old and flush valves are not low flow. Sanitary sewer and storm drain pipes have exceeded their expected service life. Parts of the building are served by central supply fans and an exhaust fan for ventilation only. The system is relatively new and is in good operating condition. The heating system with its hot water recirculation pumps has exceeded its expected service life. The control system has been problematic, the control lines and valves should be replaced, and the system upgraded to a direct digital control system.	3
Electrical Systems (B: Services)	Upgrade, renewal, repair, and replacement of electrical systems: main service; distribution system; and monitoring and control systems. The service entrance equipment is quite old and replacement parts are not available. The major components of the electrical system appear to be in relatively good physical shape considering their age. Both the main distribution panels and the branch circuit panels have spares and/or spaces. The electrical system is marginally satisfactory for the current building function and should need no major work.	4
Utilities and Site work (G: Sitework)	Improvements, renewal, repair, and replacement of utilities and site work: footing and drains; and storm and sanitary side sewers. Records indicate the water service is from the original 1924 construction but some of the external water service was updated in 1968 and is a combination water and fire main. There are no domestic water related problems noted for the building other then the taste of the water from the old pipes. As a result, the tenants use bottled drinking water. Due to age, and assuming the as-built records are accurate, the existing water service should be replaced. The side sewer from the building was upgraded in the 1968 remodel. Its condition and type are unknown. The roof leaders on this structure are internal to the building and records indicate long term problems with debris stopping the flow of rainwater to the outside conveyance pipe system. The tenants have reported water	4

leakage into the building and maintenance history has shown this to be caused by debris in the downspout system. The tile footing drains along the north building side are original to the 1924 construction of the building. Records indicate it does not extend all around the building foundation of the building. Continual dampness within the building maybe an indication that the footing drains need to be extended and looped around the entire structure. Replace roof leader conveyance pipe, and footing drain with non-tile pipe is recommended.

Building Condition Total 4

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

SAFE CAMPUS

AUGUST 15, 2008

Institution			**Agency Code**
University of Washington			360
Project Title		**Category of Project**	**Project Number**
Safe Campus/Fire & Life Safety Central Monitoring and Notification System		INFRASTRUCTURE	30000022
County	**City**		**Legislative District**
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
No			N/A
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		July 14,2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	June 2007	August 2007
Design	September 2009	August 2010
Bid	August 2010	September 2010
Construction/Occupancy	October 2010	September 2011

See attached schedule

2. Problem Statement (short description of the project – the needs and the benefits)

In 2009-11 the University of Washington is requesting state funding for the installation a new campus communication system on the Seattle campus to respond to building emergencies including fire, explosion, hazardous material spill or release, bomb threat, power outage, and similar emergencies. The new system will provide "Mass Notification" via the building fire alarm speakers and provide a means to allow "Mass Ventilation" shutdown from a central location to avoid smoke/chemicals being brought into the buildings from the air intakes. Capabilities of the new system also include the ability to broadcast pre-recorded or live emergency announcements to the buildings.

3. History of the project or facility

The current Seattle campus Central Fire Alarm Receiving System was installed in the 1960’s and was based on 19th century telegraph technology sending pulsed signals through paired wires. The current system is beyond useful life, is obsolete, and does not meet Underwriters Laboratories (UL) requirements for receiving a fire alarm system. It also does not provide the campus-wide communications needed for today’s domestic security needs. The current system is extremely limited in capabilities and does not provide the means to respond to a wide range of building emergencies including fire, explosion, hazardous material spill or release, bomb threat, power outage, and similar emergencies.

4. University programs addressed or encompassed by the project

The new system will provide "Mass Notification" via the building fire alarm speakers and provide a means to allow "Mass Ventilation" shutdown from a central location to avoid smoke/chemicals being brought into the buildings from the air intakes. The project would connect and set up communications over the campus fiber optic network and to the UW Police Department (UWPD) dispatch center. Once in place, the system will have the capability of receiving enhanced information about the incident, including the exact location and type of device initiating the alarm. In the connected buildings, the system will be used to send voice instructions, individually or in aggregate, from the University of Washington Police Department (UWPD) dispatch center. This feature can be used to provide real-time accurate instructions to the campus community in a variety of emergency situations that are possible in today's environment.

5. Significant Health, Safety, and Code Issues:

This project is needed to address two specific needs: 1) to replace a fire alarm monitoring system that is outdated and based on older technology; and, 2) to take advantage of existing fire alarm infrastructure and install modern upgraded systems to provide a campus mass notification system in buildings with voice alarm systems.

The system would provide required fire alarm system monitoring for the Seattle Campus (140+ major buildings) as outlined in the International Fire Code and NFPA 72. The system will conform to National Fire Protection Association (NFPA) 72 requirements and be UL Listed for this purpose. Most buildings are required by the Fire Code to have fire alarm systems and many of those systems are required to have voice capability with a microphone and speakers. This system would provide the required monitoring service and allow us to take advantage of existing systems to enhance our ability to quickly communicate with faculty, staff, students and the public.

The existing monitoring system is very old technology that has limited expansion capability. Reliable fire alarm monitoring is very important to make sure that emergency responders are promptly notified of fires, chemical spills/releases, and other emergency that might be reported over the system.

Sparling Electrical Engineers performed a study for the replacement of the McCulloh Loop in 2005 and amended the report to address mass notification in 2007. That study is available for reference.

6. Evidence of Failure/Ability to Defer Project:

Sparling's study summarizes the current status of the existing system on page 3 of the report as follows:

"The McCulloh Loop system is very old technology and expensive for the University to maintain. The limited information received can take considerable time to process and it currently does not monitor significant available information from individual newly installed fire alarm panels. The existing system does not meet current code although it is approved (verbal) to operate in a variance compliance condition with the Seattle Fire Department."

The fact that the existing system does not meet current UL nor NFPA 72 requirements, is a risk to the University.

The Safe Campus project is the ninth priority out of fifteen projects in the University of Washington's 2009-2011 State Capital Budget Request, and our first priority in the Infrastructure category.

7. Impact on Institutional Operations without the Infrastructure Project:

As the campus has continued to grow, the existing system has reached its capacity. Also as the current system becomes outdated and obscure, replacement parts and upgrades will become difficult to procure, even recycled replacement parts to keep the system functional will become difficult to obtain. If the system failed catastrophically the University would be required to perform a fire watch until an alternate system is installed. A system failure where the alarm is not transmitted or lack of detailed information about the nature of a building emergency can delay response and have adverse effects….injury, loss of life, severe property damage and loss of research, and bad public relations for the University.

Without a means to effectively communicate with the campus it is very difficult to implement an emergency action plan. Communications and having various options for these communications (building mass notification, outdoor voice systems, email, cell phone, etc) is critical to reaching the 50,000+ people that may be on University property during an emergency.

8. Reasonable Estimate:

A copy of the Cost Estimate Report is attached. The total project cost of $8 million. A copy of the Cost Estimate Report is attached. The total project cost is $8 million. The scope of the project will replace 136 fire alarm panels in over 200 major buildings on the Seattle Campus. This project will enable the University to have a common centrally monitored system that connects most of the major buildings. Additional buildings will be upgraded and connected based upon the availability of future funding. This project will complement the ongoing Washington State Patrol study created in the 2008 legislative.

9. Engineering Study:

An engineering study was performed by Sparling (Feb 2005) and is available for reference. A copy of the Executive Summary is attached.

10. Supports Facilities Plan:

This proposed project has been a top priority for the institutional utility master plan for two biennia, but has yet to be funded.

11. Resource Efficiency and Sustainability:

Not applicable to this project.

OFM

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000022
Project Title: Safe Campus

Description

Starting Fiscal Year: 2010
Project Class: Program
Agency Priority: 15

Project Summary

In 2009-2011, the University of Washington is requesting state funding of $8,000,000 for the upgrade and improvement of campus safety and fire systems. Capital funds are requested to install a new campus communication system on the Seattle campus to respond to building emergencies including fire, explosion, hazardous material spill or release, bomb threat, power outage, and similar emergencies. The new system will provide "Mass Notification" via the building fire alarm speakers and provide a means to allow "Mass Ventilation" shutdown from a central location to avoid smoke/chemicals being brought into the buildings from the air intakes. The current system is very old (first patented in 1882) and utilitizes telegraphic pulse transmissions through paired wires. The current system is beyond it's initial useful life and does not provide the campuswide communications means for today's needs. The project would connect and set up communications over the campus fiber optic network and to the UW Police Department (UWPD) dispatch center. Once in place, the system will have the capability of receiving enhanced information about the incident, including the exact location and type of devise initiating the alarm. In the connected buildings, the system will be used to send voice instructions, individually or in aggregate, from the UWPD dispatch center.

Project Description

In 2009-2011, the University of Washington is requesting state funds of 8,000,000 for the upgrade and improvement of campus safety and fire systems. Capital funds are requested to install a new campus communication system on the Seattle campus to respond to building emergencies including fire, explosion, hazardous material spill or release, bomb threat, power outage, and similar emergencies. The new system will provide "Mass Notification" via the building fire alarm speakers and provide a means to allow "Mass Ventilation" shutdown from a central location to avoid smoke/chemicals being brought into the buildings from the air intakes. The current system is very old (first patented in 1882) and utilitizes telegraphic pulse transmissions through paired wires. The current system is beyond it's initial useful life and does not provide the campuswide communications means for today's needs. The project would connect and set up communications over the campus fiber optic network and to the UW Police Department (UWPD) dispatch center. Once in place, the system will have the capability of receiving enhanced information about the incident, including the exact location and type of devise initiating the alarm. In the connected buildings, the system will be used to send voice instructions, individually or in aggregate, from the UWPD dispatch center.

Location

City: Seattle
County: King
Legislative District: 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

N/A

New Facility: No

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	**Account Title**	**Estimated Total**	**Prior Biennium**	**Current Biennium**	**Reapprops**	**New Approps**

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000022
Project Title: Safe Campus

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	8,000,000				8,000,000
	Total	**8,000,000**	**0**	**0**	**0**	**8,000,000**

		Future Fiscal Periods 2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	06/01/2007	08/01/2007
Design	9/1/2009	9/1/2010
Construction	9/1/2010	9/1/2011

	Total
Gross Square Feet:	1
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	4,716,639
Construction Type:	Other Schedule B Projects
Is this a remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	10.76%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		0	0.0%
Construction Documents		338,664	4.2%
Extra Services		475,200	5.9%
Other Services		199,019	2.5%
Design Services Contingency		131,465	1.6%
Consultant Services Total		**1,144,348**	**14.3%**
Maximum Allowable Construction Cost(MACC)	**4,716,639**		
Site work		0	0.0%
Related Project Costs		271,408	3.4%

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000022**
Project Title: **Safe Campus**

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Facility Construction	4,445,231	55.6%
GCCM Risk Contingency	0	0.0%
GCCM or Design Build Costs	0	0.0%
Construction Contingencies	708,201	8.9%
Non Taxable Items	0	0.0%
Sales Tax	488,236	6.1%
Construction Contracts Total	**5,913,076**	**73.9%**
Equipment		
Equipment	0	0.0%
Non Taxable Items	0	0.0%
Sales Tax	0	0.0%
Equipment Total	**0**	**0.0%**
Art Work Total	**0**	**0.0%**
Other Costs Total	**441,906**	**5.5%**
Project Management Total	**500,670**	**6.3%**
Grand Total Escalated Costs	**8,000,000**	
Rounded Grand Total Escalated Costs	**8,000,000**	

Operating Impacts

No Operating Impact

Narrative

Safe Campus is an infrastructure upgrade and replacement project.

OFM

360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	37	**Report Number:**	CBS003
Cost Estimate Title:	Safe Campus	**Date Run:**	8/8/2008 11:57AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	30000022		
Project Title:	Safe Campus		
Project Phase Title:			

Contact Info **Contact Name:** Ashley Kangas **Contact Number:** 206.897.1868

Statistics

Gross Sq. Ft.:	0
Usable Sq. Ft.:	0
Space Efficiency:	
MACC Cost per Sq. Ft.:	0
Escalated MACC Cost per Sq. Ft.:	0
Remodel?	Yes
Construction Type:	Other Schedule B Projects
A/E Fee Class:	B
A/E Fee Percentage:	10.76%

Schedule

	Start Date	End Date
Predesign:	06-2007	08-2007
Design:	09-2009	09-2010
Construction:	09-2010	09-2011
Duration of Construction (Months):	12	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		0	
Construction Documents		338,662	
Extra Services		475,200	
Other Services		199,018	
Design Services Contingency		131,465	
Consultant Services Total			**1,144,345**
Site work		0	
Related Project Costs		271,370	
Facility Construction		4,445,231	
Construction Contingencies		708,195	
Non Taxable Items		0	
Sales Tax		488,232	
Construction Contracts Total			**5,913,028**
Maximum Allowable Construction Cost(MACC)	**4,716,601**		
Equipment		0	
Non Taxable Items		0	
Sales Tax		0	
Equipment Total			**0**
Art Work Total			**0**
Other Costs Total			**441,907**
Project Management Total			**500,666**
Grand Total Escalated Costs			**7,999,946**
Rounded Grand Total Escalated Costs			**8,000,000**

Additional Details

Alternative Public Works Project:	No

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 37
Cost Estimate Title: Safe Campus

Report Number: CBS003
Date Run: 8/8/2008 11:57AM

Version: 01 2009-11, Draft
Project Number: 30000022
Project Title: Safe Campus
Project Phase Title:

Agency Preferred: Yes

Contact Info **Contact Name:** Ashley Kangas **Contact Number:** 206.897.1868

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	08-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

360 - University of Washington
Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	37	**Analysis Date:**	August 07, 2008
Cost Estimate Title:	Safe Campus		
Detail Title:	Safe Campus 09-11		
Project Number:	30000022		
Project Title:	Safe Campus		
Project Phase Title:			
Location:	Seattle		

Contact Info **Contact Name:** Ashley Kangas **Contact Number:** 206.897.1868

Statistics

Gross Sq. Ft.:	
Usable Sq. Ft.:	
Rentable Sq. Ft.:	
Space Efficiency:	
Escalated MACC Cost per Sq. Ft.:	
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule B Projects
Remodel?	Yes
A/E Fee Class:	B
A/E Fee Percentage:	10.76%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	No
Project Administration by:	AGY
Higher Education Institution?:	No
Alternative Public Works?:	No

Project Schedule

Project Schedule	Start Date	End Date
Predesign:	06-2007	08-2007
Design:	09-2009	09-2010
Construction:	09-2010	09-2011
Duration of Construction (Months):	12	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	8-2008	

Project Cost Summary

MACC:	$ 4,319,578
MACC (Escalated):	$ 4,716,601
Current Project Total:	$ 7,399,629
Rounded Current Project Total:	$ 7,400,000
Escalated Project Total:	$ 7,999,946
Rounded Escalated Project Total:	$ 8,000,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Construction Documents				
A/E Basic Design Services	320,703			
SubTotal: Construction Documents		**320,703**	1.0560	**338,662**
Extra Services				
Hazardous Materials Consultant	450,000			
SubTotal: Extra Services		**450,000**	1.0560	**475,200**
Other Services				
Bid/Construction/Closeout	144,084			
Reimbursables, As builts,	38,000			
SubTotal: Other Services		**182,084**	1.0930	**199,018**
Design Services Contingency				
Design Services Contingency	95,279			
Change Order Design Allowance	25,000			
SubTotal: Design Services Contingency		**120,279**	1.0930	**131,465**
Total: Consultant Services		**1,073,066**	1.0664	**1,144,345**
CONSTRUCTION CONTRACTS				
Related Project Costs				
Parking Mitigation	4,141			
Hazardous Materials Remediation and Removal	248,437			
SubTotal: Related Project Costs		**252,578**	1.0744	**271,370**
Facility Construction				
General Conditions	4,067,000			
SubTotal: Facility Construction		**4,067,000**	1.0930	**4,445,231**
Maximum Allowable Construction Cost (MACC)		**4,319,578**	1.0900	**4,716,601**
Construction Contingencies				
Management Reserve	215,979			
Allowance for Change Orders	431,958			
SubTotal: Construction Contingencies		**647,937**	1.0930	**708,195**
Sales Tax		**447,076**	1.0921	**488,232**
Total: Construction Contracts		**5,414,591**	1.0921	**5,913,028**
OTHER COSTS				
In-Plant Services	105,000			
Building Permit, Insurance, Connectivity	306,306			
Total: Other Costs		**411,306**	1.0744	**441,907**
PROJECT MANAGEMENT				
Agency Project Management	500,666			
Total: Project Management		**500,666**	1.0000	**500,666**

OFM

360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

*

Cost Estimate Number: 37
Cost Estimate Title: Safe Campus

Report Number: CBS003
Date Run: 8/8/2008 11:57AM

Parameter	**Entered As**	**Interpreted As**
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	30000022	30000022
Cost Estimate Number	37	37
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

I. Executive Summary

A. Introduction

The University of Washington is a nationally recognized university with the main campus of approximately 283 buildings on campus and some 124 buildings off campus and all located in Seattle, Washington. Smaller branch campuses are located in Bothell, WA and Tacoma, WA. The university is currently utilizing a version of a McCulloh Loop style technology to provide fire alarm monitoring to 134 major buildings on the main campus. A McCulloh Loop is a straight wire signaling system that indicates an alarm by way of a loop connecting all the buildings being monitored. The monitoring is done in two locations currently. The Communications Center in the University Police Bryant Building monitors both the fire alarm system and all security/911 calls for the campus. The fire alarm system is also automatically monitored by a subcontracted central station monitoring company (Washington Alarm) which is responsible for contacting the Seattle Fire Department (SFD) when alarms are received.

McCulloh Loop technology was first patented in 1882 as a way to use one of the first electrical communications technologies for automatic fire alarm reporting. That technology, virtually unchanged, is in service at the University of Washington today, and has for many years been expensive for the university to maintain. The limited information received can take considerable time to process and it currently does not monitor significant available information from the individual newly installed building fire alarm panels. This existing system does not meet current codes although it is approved to operate in a variance compliance condition with the SFD.

The University of Washington engaged Sparling in 2005 to study replacement of the McCulloh Loop. That Study defined the operation of the McCulloh Loop system and recommended TCP/IP technology to replace it campus wide. Several developments emerged since the Study was completed; these were:

- The recent fatal events at the University of Washington and nationwide placed a focus on Mass Notification systems.
- The University decided not to pursue the creation of a Proprietary Central Station on the University campus due to the costs of providing additional facilities and staffing to meet NFPA requirements. That decision did not change the maintenance and operational problems with the McCulloh Loop, however, and those issues became important to compare as replacement technologies were considered.
- At the time of the Study, the system from the University's sole-source fire alarm panel supplier, Simplex, was not studied. At that time, Simplex could not offer a system that was UL listed for Proprietary Central Station use, nor was system downtime during panel re-configuration acceptable. Simplex is now able to offer a Listed system without the downtime constraints.

In response to these issues, the University engaged Sparling to investigate and prepare a Study Update to review a newly developed system from Simplex that combines a listed NFPA Proprietary Central Station with Mass Notification features, and compare it with the original Study's recommendation of a TCP/IP system.

The Update will compare the issues of Mass Notification, maintenance and operations, NFPA 72 Proprietary Station and Central Station reporting compliance, sustainability, reliability, and cost for the two approaches.

As part of the Update, Sparling and UW representatives traveled to a campus location and a Simplex's manufacturing facility to review and analyze their a combined fire alarm reporting and centralized mass notification system.

B. Stakeholders

The following University of Washington departments are identified as stakeholders in this project and as such all have participated in the Study:

University Police - The UWPD monitors the fire alarm systems and their communication center, responds to alarms, and provides access and security support to the Seattle Fire Department.

Facilities Services - The Signal Shops group of the Facilities Services tests and maintains the building fire alarm systems throughout the campus as well as the central monitoring system at the police station. This group provides 24 x 7 support for responding to alarms and when authorized by Seattle fire Department, resets the building panels.

Environmental Health and Safety - The EH&S group provides fire protection engineering consultation and support for life safety code compliance for facility and operational requirements. They also maintain a list of capital safety improvement needs with input from Facilities Services and others.

Computing and Communications - The C&C group would become a new stakeholder with the implementation of the design recommended in the Study to use TCP/IP technology for data transmission.

Housing and Food Services - Housing and Food Services is very concerned with providing emergency information to their student residents and could become an early implementer of a system that provided mass notification.

C. System Goals

A critical functional and cost consideration for the update is to supplement the previous review of the replacement of the electronic systems and infrastructure to include the

Simplex system option. The need for a system to provide comprehensive information for maintenance and operations was added to the update criteria. To provide a comprehensive review of this aspect, Sparling conducted interviews and investigated the products, experience, and capabilities of Simplex and their networked monitoring equipment.

Desired improvements included the following:

- High reliability.
- Improve total response time.
- Emergent/Sustainable Technology
- Alarm handling and recording of events to comply with NFPA and UL.
- Enhanced Maintenance and Operations information availability.
- Flexibility to handle many input and output (operator's interface) requirements.
- Maintainability/Cost to maintain/Low mean time between failures (MTBF).
- Compatibility with existing systems; minimum need to modify or replace building fire alarm systems to incorporate building into new monitoring system.
- Expandability of system - capacity to report down to the addressable device level across campus in the future.
- Paging of Alarm and Zone information to UW staff.
- Backup capabilities to provide monitoring in the event of a major event making the primary response center unavailable.

Various technologies, independent of vendor solutions, were reviewed and presented in the original Study. The Simplex technology has been added and presented for consideration. A direct comparison of appropriate technologies was provided to give insight into the differences related to reliability, cost, flexibility, information received, maintainability, etc.

The second goal of the original Study was to investigate the possibility of the university monitoring its own fire alarm signals as a proprietary station rather than send the signals to Washington Alarm for dispatching Seattle Fire Department. This included terminating the monitoring contract with Washington Alarm and providing required capital improvements and operational changes at the Bryant Building as deemed necessary by SFD. This element of the original Study was not updated, except to verify that the Simplex product was listed for use as a Proprietary Station..

D. Recommendations

The Simplex Network system is recommended for replacement of the University of Washington Campus McCulloh Loop. With the university standardizing on Simplex fire alarm panels, the Simplex Network system connected to existing and future Simplex fire alarm panels can now provide mass notification, operational and maintenance efficiencies that cannot be realized using today's TCP/IP technologies. The recommendation is based on several factors:

- The Simplex Network system has been listed for use as a Proprietary Central Station since the original Study.
- Simplex has introduced an optical fiber based integrated fire alarm reporting and mass notification network system.
- A proprietary system that connects a single manufacturer's panels with a central reporting and control system provides greatly increased functionality for fire alarm reporting, fire alarm systems operation, and fire alarm systems maintenance.
- The networked system can provide additional central emergency management functions such as individual or multiple building supply fan shutdown.

While the cost of the recommended Simplex solution is higher than a comparable TCP/IP-based non-proprietary system, those costs will likely be returned several fold through better informed fire alarm response and decreased operation and maintenance costs.

1. Costs

The following figures represent the anticipated construction (before soft costs) and ongoing transmission media operating service charges for the two systems compared for this Study Update.

Table I.D.1

Simplex Network	Quantity	Unit Price	Total
Building			
Simplex Panels	136	$ 18,240	$ 2,480,600
General Construction	136	$ 10,358	$ 1,408,720
Optical Fiber	136	$ 1,654	$ 225,000
Subtotal			*$ 4,114,320*
Proprietary Station & Remotes			
Headend and Backup System	1	$ 146,731	$ 146,731
Subtotal			*$ 146,731*
Total - Simplex Network			***$ 4,261,051***
UW C&C Service Charge	Quantity		
Total - 20 year Fiber	136	$ 6,000	***$ 816,000***

Table I.D.2

TCP/IP Summary	Quantity	Unit Price	Total
Building			
Fire Alarm Reporting	136	$ 5,300	$ 720,800
Audio	82	$ 10,500	$ 861,000
Dialer	136	$ 9,300	$ 1,264,800
Subtotal			*$ 2,846,600*
Proprietary Station/Headend & Remotes			
Fire Alarm Reporting	3	$ 35,733	$ 107,199
Audio	1	$ 30,000	$ 30,000
Dialer	3	$ 35,733	$ 107,199
Subtotal			*$ 244,398*
Total - TCP/IP			***$ 3,090,998***
UW C&C Service Charge	Quantity		
Total - 20 year Copper	136	$ 6,192	***$ 842,112***

2. Phasing

While technically feasible, phasing the installation by building or group of buildings will increase total project cost and ongoing maintenance costs. Also, phasing requires reconfiguration of the McCulloh loop each time, with the potential to affect reliability or increase maintenance efforts. For these reasons, phasing the installation of the Network system is not recommended.

II. Mass Notification Systems (MNS)

A. National Initiatives

1. Clery Act.

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act was enacted in 1990 in response to a fatal event at Lehigh University. In August of 2007, the Senate approved changes to the Clery Act within the Higher Education Act. These changes included the requirement " to notify the campus community in a reasonable and timely manner in the event of a significant emergency or dangerous situation, involving an immediate threat to the health or safety of students or staff, occurring on the campus", and to "to test emergency response and evacuation procedures on an annual basis". It authorizes grants for "developing and implementing a state-of-the-art emergency communications system for each campus of an institution of higher education or consortium, in order to contact students via cellular, text message, or other state-of-the-art communications methods when a significant emergency or dangerous situation occurs".

2. Department of Defense Facilities Criteria

The Department of Defense (DOD), as part of its Unified Facilities Criteria (UFC) has added Minimum Antiterrorism Standards for Buildings that mandates some form of a Mass Notification System for nearly all of its facilities. In that document, UFC 4-021-01 describes the design operation, and maintenance of any Mass Notification System provided for its facilities.

3. National Fire Protection Association

In preparation of its Mass Notification requirements, DOD asked the National Fire Protection Association (NFPA) to draft a complete standard for Mass Notification Systems. In response, NFPA assigned the task to the committee on Signaling Systems for the Protection of Life and Property which also has responsibility for the National Fire Code (NPFA 72).

a) 2007 NFPA 72, Annex 'E'

In response to the DOD, the NFPA has prepared Annex 'E' (Mass Notification Systems) to the 2007 edition to NFPA 72. The preamble to Annex 'E' states that "This annex is not a part of the requirements of this NFPA document but is included for informational purposes only."

Although Annex 'E' is not an NFPA requirement, it is almost certain to evolve to be cited code when and if a Mass Notification System is required for a facility. As such, it provides guidelines that should be followed for any agency considering adding a Mass Notification System to its facilities.

Annex 'E' states that if the system serves more than one building, it should be capable of providing messages to one individual building or to combinations of more than one building at any given time.

While the scope of Annex 'E' includes other means (visible signals, graphics, etc), its primary focus is on intelligible voice communications that ' meet the requirements of <NFPA 72> 7.4.1.4.'

b) NFPA 7.4.1.4 - Voice Intelligibility

If a MNS is installed to the guidelines of NFPA 72 Annex 'E', it should meet the voice intelligibility requirements of NFPA 7.4.1.4 for voice/alarm fire alarm systems. Supplement 4 of NFPA 72 provides information for assessing and designing intelligible voice systems.

c) Central Control Stations (CCS)

Annex 'E' indicates that an MNS should have at least one Central Control Station if it serves more than one building and receives information from premises, regional, or national sources. Among the features of the CCS is the ability to monitor and control sensors and output devices manually or automatically

(1) Fan Systems Shutdown

One application of the manual or automatic control function that could be provided by a Central Control Station is immediate shutdown of one or more buildings' fan system to prevent the spread of dangerous external (to a building) or internal airborne fumes.

4. Common Alerting Protocol

In addition to voice notification systems, other standards and means of mass notification have been envisioned. In 2000, a Working Group of the National Science and Technology Council developed and draft specification for a 'Common Alerting Protocol' that would be a standard message format using XML (Extensible Markup Language). The specification was accepted by the Organization for the Advancement of Structured Information Standards, and may be the protocol whereby a custom or pre-defined message is transmitted to a facility's MNS.

B. UW Initiatives

1. Campus Committee

A campus committee has been formed to provide direction for the University to provide notification to students, faculty, and staff and has considered zoned paging via an MNS system application of building voice/alarm fire alarm systems as one of the potential strategies.

2. Audible Notification via Voice Fire Alarm System Network

The University of Washington has made it a policy since 1998 to use speakers as the notification devices for new and replaced campus fire alarm systems, whether or not a voice/alarm system was required by Code. With the emergence of Mass Notification initiatives came the realization that those buildings, at least, had the notification devices necessary to tie into a future campus-wide Mass Notification System.

With the events at Virginia Tech, the University discussed the possibility of connecting the voice/alarm buildings on campus to a central Mass Notification System with the Simplex/Grinnell company. Simplex has been the sole-source provider of fire alarm systems for the University since 1997, and has developed a technology that allows their proprietary multiplexed network system and a networked voice signal to be combined and transmitted using a single strand of optical fiber (between pairs of fire alarm panels) arranged in a loop architecture.

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

HOUSE OF KNOWLEDGE LONGHOUSE

AUGUST 15, 2008

Institution		**Agency Code**
University of Washington		360
Project Title	**Category of Project**	**Project Number**
House of Knowledge	GROWTH	30000021
County	**City**	**Legislative District**
King	Seattle	043
Was this project included in a prior 10-year capital plan? If yes, when?		**Previous Project Number**
No		N/A
Prepared By:	**Phone Number**	**Analysis Date:**
Colleen Pike	206-543-6277	8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	7/1/2009	12/31/2009
Design	4/5/2010	11/27/2011
Bid	11/28/2011	1/20/2012
Construction/Occupancy	1/23/2012	4/12/2013

2. Problem Statement (short description of the project – the needs and the benefits)

The House of Knowledge (longhouse style) facility has enormous potential to positively influence, educate, and serve our region and state. Since 1993 longhouse-style facilities have been built on university campuses in the northwest. These longhouses generated much excitement and support from the Native and non-Native communities and have resulted in positive changes on these campuses with respect to Native recruitment and retention. The UW longhouse would serve as a symbol to Indian and non-Indian communities of the University of Washington's and the state's commitment in supporting Native American education and research. And, it would provide a place for all people to gather and share in the pride, history and cultures of the Northwest Coast Native peoples.

The University of Washington's House of Knowledge will enhance the University campus in the following ways:

- It will improve and support the recruitment and retention of Native students, faculty and staff
- It will serve as a culturally appropriate and responsive learning environment for Native students
- It will strengthen partnerships with Native American leaders and their communities in the surrounding area; and
- It will support and enhance diversity on the UW campus and will provide educational opportunities that will benefit all UW students, faculty and staff.

The building would honor Coast Salish traditional longhouse architecture and house spaces that would include:

- Student Welcome Space and Display Lobby
- Gathering Hall for larger meetings, lectures, demonstrations, banquets, exhibits, and performance
- Multiple smaller meeting and seminar rooms

- Student Lounge
- Resource room and Computer Area
- Student Organization Offices
- Building Administrative Offices
- Kitchen support space
- Restrooms, Circulation and other support spaces

3. History of the project or facility

In 2007 and 2008, UW President Emmert held two Tribal Leaders Summits on the Seattle campus that initiated a dialogue between University administration and Tribal Nations from the greater Washington region. The Summit demonstrated to the tribal leaders UW's commitment to Native American education. This project is truly an opportunity for a collaborative effort to build partnerships between the Tribes and their communities, the State of Washington and the University of Washington.

Following the 2007 summit, the House of Knowledge Planning and Advisory Committee (HOKPAC) was formed to create a clear vision of the project to serve as a basis of community awareness, fundraising, design, and construction. Members included University of Washington students, faculty, staff, tribal leaders, and the community.

In 2008, a number of tasks were identified and completed including:

- Development of a feasibility report including a Native focus group outreach plan
- A recommendation of a project site on the University of Washington Seattle Campus
- The preliminary space program indicated a need of 18,987 gross square feet
- A preliminary schedule for the project indicated construction completion in 2013
- The construction cost and total project budget was identified
- A preliminary fundraising strategy plan
- An elders committee to assist in culturally guiding the project was formulated
- Project information documents about the project were published

The total project cost for the House of Knowledge Longhouse Project is currently estimated at $12,668,000. The University of Washington is requesting $1,500,000 for predesign and design funding in the 2009-11 biennium and is planning to request $1,500,000 for construction funding in the 2011-13 biennia. The remaining $9,668,000 or over 75% of the project budget will be provided from grants, foundations, individual donors and other non-state sources.

4. University programs addressed or encompassed by the project

This new building will benefit everyone at the University of Washington, but serve students with Native American heritage in particular.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

Seen as the launching pad to prosperity, a college education has long been the American dream. Studies demonstrate that this may be *more* true for people of color, yet many remain under-represented in higher education. The Longhouse addresses this problem by creating a learning and research center devoted exclusively to Native American teaching, learning and research. The Longhouse will complement the mostly social service and cultural endeavors at Discovery Park's Daybreak Star Cultural Center. In addition, the Longhouse will add value to the University as it tries to better understand its unique role as a cultural icon embracing the educational needs of many different learners in the Northwest.

- **Raise educational attainment – Focus on diversity (HECB)**
- **Help more people achieve degrees (HECB)**

With pride and a sincere commitment to diversity, the University has already been tremendously successful in gaining grants and re-organizing to create a learning and research environment dedicated to integrating cultural, race and social studies. Creating a Longhouse will further these advances by creating a central and beautiful meeting place for such activity. This provides the community with a clear signal that Washington values diversity and a place to express it. A byproduct of the Longhouse will include a more culturally, racially and ethnically diverse student, faculty and staff population that feels welcomed and sustained on this large, urban campus.

- **Promotes partnerships**

State funding is significant because of its demonstration of value to Native and other racial and ethnic minorities in Washington. Such funding is integral to making the Longhouse a *state* university resource. However, the bulk of funding will come from donors.

Programs involving the Longhouse will reach out to K-12 institutions across the state to motivate more young Native Americans to set high educational goals, including attending the UW. In partnership with programs like GEAR-UP, the House of Knowledge will be an important destination for campus visits by middle- and high-schoolers from these communities.

- **Promotes safety from violence for students, faculty and staff.**

Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the

Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html

The proposed project complies with many of the master plan objectives:

- **Ensure Stewardship:** The Campus Master Plan should ensure good stewardship of the existing campus, maintaining and protecting the value of the University's physical resources and character, history, architecture and open space. Changes to the campus should improve and enhance, rather than detract from, the value and quality of the campus. The Campus Master Plan identifies and encourages preservation of historic resources and open space.
  - The preferred site for House of Knowledge improves the landscape in the area and created a natural buffer that is a culturally important aspect of the Longhouse.

- **Provide Accessibility:** The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.
  - An accessible route will be created to offer people with disabilities entrances to and use of the building.

- **Promote Safety:** The Campus Master Plan should help create a safe and healthy environment, with personal and workplace safety considerations integral to planning and design of circulation elements, buildings, and open spaces.
  - The building landscaping and site lighting will be designed to enhance the safety and security of the occupants and visitors.

(b) Campus Facilities Plan,

An extensive effort went into identifying the best site for the location of the House of Knowledge. The process considered the requests of the Native advisors for a site with connection to the natural world and accessible to the student community it would serve. Although the building is relatively small, the need for a site with trees and other natural buffers required more site area.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for predesign and design funding for the House of Knowledge is primarily driven by the goal of creating a more diverse campus community. The project is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - Historically the needs of Native Americans have been underserved. This project, prioritized by Washington State tribal leaders, will make a significant contribution to making the University of Washington a more welcoming and supportive institution to our state's first peoples.
  - Designing the building at current Americans with Disabilities Act (ADA) code requirements will ensure universal access to programs located in the building.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.

  - Native American faculty is an underrepresented group at the University of Washington. This project will help make the UW a more attractive place for recruiting more faculty as well as students.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - Increasing the number of Native American college graduates is an important long term strategy to improving economic development in these communities.
  - Improving communication and understanding between cultural groups is a key challenge in our increasing multicultural society. The House of Knowledge will make a place for both expression and connection of native heritage, and a visible center for sharing native cultures with the wider campus community.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - The building will achieve Leadership in Energy and Environmental Design (LEED) Silver requirements.
  - Life cycle costing has been used in the design process to make decisions that help insure long term, cost effective choices.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

The House of Knowledge is the tenth priority request out of fifteen in the 2009-11 University of Washington's State Capital Budget Request, and the third priority in the Growth category.

7. 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 University of Washington is making every effort to strengthen diversity on its campuses and the building of a Native longhouse style facility is significant to this objective. Data has shown that Native American students, faculty and staff are severely under-represented on the Seattle campus relative to the overall state Native population.

Between 1999 and 2007 the percentage of Native American undergraduate students entering UW as freshman has been between 1.0% and 1.3%. The percentage of Native American graduate and professional students is also drastically low with their proportion in graduate schools at 0.9% and in professional schools 1.3% respectively. With regard to Native American faculty and staff the disparity between state demographics and UW demographics is even more revealing. Whereas the Native American proportion of the state population is estimated at 1.6%, their proportion of the UW faculty is a mere 0.4%. At the professional and classified staff levels the proportion of Native American employees is 1.1%. The graduation record of Native American students at UW is also extremely low. Graduation rates for 2001 reveal that Native American student graduation was lower by an average of 14 percentage points than "any other underrepresented minority student groups."

Despite the continued underrepresentation of Native peoples at UW, in the last few years the University has seen a growth in Indigenous research in the areas of graduate student education research, health and wellness, and law. The University has also established a new Bachelor of Arts Major in American Indian Studies, which will be offered for the first time in fall 2008. The new facility would bolster these advancements and would serve as a center for Native research, education and cultural activities. It would make Native people, history and education visible on the UW campus. This project has been a dream of UW faculty, staff, students and Native leaders for many generations.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields, as defined by the HECB, and the particular fields in which such growth is expected to occur.

While this project does not address a high-demand field, the House of Knowledge does serve an underrepresented population.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. 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.

All classrooms, instructional labs, offices spaces in the proposed House of Knowledge Longhouse will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility:	13,050 asf
(b) Gross square feet (GSF):	19,000 gsf
(c) Net building efficiency (ASF divided GSF):	68%

10. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The 3 example projects are good comparisons of construction costs for the proposed project. All of the projects were constructed on college campuses and included very similar missions and program spaces. The room program for the projects have similarities in spaces but do not match exactly. The House of Welcome is largely a classroom facility that converts into a conference center. The First Nations House of Learning facility included conference room, student center, native program faculty offices, library, and daycare center. The Portland State facility included a conference center, classrooms, and an art gallery lobby. The design character would be closes to the UBC First Nations facility without the library, daycare, and faculty offices.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Proposed House of Knowledge	*University of Washington*	*18,987*	*$7,134,058*	*$303.78*	*5/2013*	*23.8%*	*$376.06*
House of Welcome	Evergreen State College	12,177	$1,450,037	$119.08	6/1995	88.2%	$224.07
First Nations House of Learning	University of British Columbia	24,420	$3,947,000	$161.63	6/1991	221.8%	$520.11
Native American Student and Community Center	Portland State University	5,200	$1,383,200	$266.00	6/2005	33.5%	$354.98

The delivery method for this project will be Design-Bid-Build.

11. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	9,150	70%
Student Advising/Counseling Services	800	6%
Childcare	0	0%
Faculty offices	0	0%
Administrative	800	6%
Maintenance/Central Stores/Student Center	2,300	18%
Total	13,050	100%

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000021**
Project Title: **House of Knowledge Longhouse**

Description

Starting Fiscal Year: 2010
Project Class: Program
Agency Priority: 17

Project Summary

In 2009-2011, the University of Washington is requesting state funding of $1,500,000 for the Predesign/Design study of a House of Knowledge Longhouse on the Seattle campus. The House of Knowledge Longhouse will provide a culturally responsive learning environment for students, faculty, and staff. The intent of this project is to construct on the Seattle Campus a "House of Knowledge" springing from the longhouse style traditions of the indigenous peoples of the Pacific Northwest. The UW House of Knowledge will provide a culturally responsive learning environment for students, faculty, and staff. It will serve the entire community through dissemination of knowledge of the indigenous peoples of the Pacific Northwest and programs promoting the value of cultural diversity and respect for all cultures.

Project Description

In 2009-11, the University of Washington is requesting state funding of $1,500,000 for the Predesign/Design study of the House of Knowledge, the UW Longhouse project. This longhouse will be a significant factor in strengthening the UW commitment to Native American education and improve diversity on campus. This building will be a significant vehicle to both recruiting and retaining Native students, faculty, and staff. The Longhouse will honor Coast Salish traditional architecture and house spaces that will include: a Welcome space and Display lobby; Gathering Hall of larger meetings, exhibits and performances; Resource room and computer area; Student Organization offices; Administrative offices; and other related support spaces.

This project is an opportunity to further solidify the collaborative effort and serve as a symbol of the U of W's commitment to Native recruitment and retention. In 2007 and 2008, UW President Mark Emmert convened Tribal Leaders Summits on the Seattle campus. At the summits, UW President Mark Emmert initiated dialogue with the Tribal Nations to lay the groundwork for continued improvements in the support of recruitment and retention of Native students, faculty and staff. This Longhouse is intended to provide a cultural learning environment for Native students. This Longhouse will serve the region and state as a cultural center for Northwest Coast Native peoples. The U of W is working with Native tribes to develop programming and raise funds to offset construction project costs. Following the 2007 summit, the House of Knowledge Planning and Advisory Committee (HOKPAC) was formed to create a clear vision of the project to serve as a basis of community awareness, fundraising, design, and construction. Members included University of Washington students, faculty, staff, tribal leaders, and the community.

In 2008, a number of tasks were identified and completed including: Development of a feasibility report including a Native focus group outreach plan; A recommendation of a project site on the University of Washington Seattle Campus; The preliminary space program indicated a need of 18,987 gross square feet; A preliminary schedule for the project indicated construction completion in 2013;The construction cost and total project budget was identified; A preliminary fundraising strategy plan; and An elders committee to assist in culturally guiding the project was formulated.

Location

City: Seattle
County: King
Legislative District: 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management Impacts

See GMA Questionaire.

New Facility: Yes

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000021
Project Title: House of Knowledge Longhouse

Description

How does this fit in master plan

See UW master Plan link in GMA Questionaire.

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	3,000,000				1,500,000
252-7	HI Ed N-Prop Lcl Cap-Private/Local	9,668,000				
	Total	**12,668,000**	**0**	**0**	**0**	**1,500,000**

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State	1,500,000			
252-7	HI Ed N-Prop Lcl Cap-Private/Local	9,668,000			
	Total	**11,168,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2009	12/01/2009
Design	4/1/2010	1/1/2012
Construction	2/1/2012	3/1/2012

	Total
Gross Square Feet:	18,897
Usable Square Feet:	13,050
Efficiency:	69.1%
Escalated MACC Cost per Sq. Ft.:	378
Construction Type:	Other Schedule A Projects
Is this a remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	9.70%

Cost Summary

	Escalated Cost	% of Project
Acquisition Costs Total	**0**	**0.0%**
Consultant Services		
Pre-Schematic Design Services	217,731	1.7%
Construction Documents	462,135	3.7%
Extra Services	842,842	6.7%
Other Services	427,007	3.4%
Design Services Contingency	201,003	1.6%

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000021**
Project Title: **House of Knowledge Longhouse**

Cost Summary

		Escalated Cost	% of Project
Consultant Services Total		**2,150,718**	**17.0%**
Maximum Allowable Construction Cost(MACC)	**7,146,967**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		7,146,967	56.4%
GCCM Risk Contingency		0	0.0%
GCCM or Design Build Costs		0	0.0%
Construction Contingencies		1,072,045	8.5%
Non Taxable Items		0	0.0%
Sales Tax		739,711	5.8%
Construction Contracts Total		**8,958,723**	**70.7%**
Equipment			
Equipment		507,584	4.0%
Non Taxable Items		0	0.0%
Sales Tax		45,683	0.4%
Equipment Total		**553,267**	**4.4%**
Art Work Total		**35,735**	**0.3%**
Other Costs Total		**302,455**	**2.4%**
Project Management Total		**667,102**	**5.3%**
Grand Total Escalated Costs		**12,668,000**	
Rounded Grand Total Escalated Costs		**12,668,000**	

Operating Impacts

No Operating Impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 18
Cost Estimate Title: UW House of Knowledge

Report Number: CBS003
Date Run: 8/13/2008 8:59AM

Version: 01 2009-11, Draft
Project Number: 30000021
Project Title: House of Knowledge Longhouse
Project Phase Title:

Agency Preferred: Yes

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Statistics

Gross Sq. Ft.:	18,897
Usable Sq. Ft.:	13,050
Space Efficiency:	69%
MACC Cost per Sq. Ft.:	334
Escalated MACC Cost per Sq. Ft.:	378
Remodel?	No
Construction Type:	Other Schedule A Projects
A/E Fee Class:	A
A/E Fee Percentage:	9.70%

Schedule

	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	01-2012
Construction:	02-2012	03-2012
Duration of Construction (Months):	1	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		217,731	
Construction Documents		462,135	
Extra Services		842,842	
Other Services		427,007	
Design Services Contingency		201,003	
Consultant Services Total			**2,150,718**
Site work		0	
Related Project Costs		0	
Facility Construction		7,146,967	
Construction Contingencies		1,072,045	
Non Taxable Items		0	
Sales Tax		739,711	
Construction Contracts Total			**8,958,723**
Maximum Allowable Construction Cost(MACC)	**7,146,967**		
Equipment		507,584	
Non Taxable Items		0	
Sales Tax		45,683	
Equipment Total			**553,267**
Art Work Total			**35,735**
Other Costs Total			**302,455**
Project Management Total			**667,102**
Grand Total Escalated Costs			**12,668,000**
Rounded Grand Total Escalated Costs			**12,668,000**

Additional Details

Alternative Public Works Project: No

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number: 18
Cost Estimate Title: UW House of Knowledge

Report Number: CBS003
Date Run: 8/13/2008 8:59AM

Version: 01 2009-11, Draft
Project Number: 30000021
Project Title: House of Knowledge Longhouse
Project Phase Title:

Agency Preferred: Yes

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	18	**Analysis Date:**	July 31, 2008
Cost Estimate Title:	UW House of Knowledge		
Detail Title:	House of Knowledge 09-11		
Project Number:	30000021		
Project Title:	House of Knowledge Longhouse		
Project Phase Title:			
Location:	Seattle		

Contact Info **Contact Name:** Ken Kubota **Contact Number:** 206.616.0360

Statistics

Gross Sq. Ft.:	18,897
Usable Sq. Ft.:	13,050
Rentable Sq. Ft.:	
Space Efficiency:	69%
Escalated MACC Cost per Sq. Ft.:	378
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule A Projects
Remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	9.70%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	No

Project Schedule	Start Date	End Date
Predesign:	07-2009	12-2009
Design:	04-2010	01-2012
Construction:	02-2012	03-2012
Duration of Construction (Months):	1	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 6,308,003
MACC (Escalated):	$ 7,146,967
Current Project Total:	$ 11,317,051
Rounded Current Project Total:	$ 11,317,000
Escalated Project Total:	$ 12,668,000
Rounded Escalated Project Total:	$ 12,668,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	175,000			
Environment Analysis	30,000			
SubTotal: Pre-Schematic Design Services		**205,000**	1.0621	**217,731**
Construction Documents				
A/E Basic Design Services	422,195			
SubTotal: Construction Documents		**422,195**	1.0946	**462,135**
Extra Services				
Civil Design (Above Basic Services)	40,000			
Geotechnical Investigation	10,000			
Commissioning (Systems Check)	50,000			
Site Survey	20,000			
Testing	100,000			
Leadership Energy & Environment Design List(LEED)	75,000			
Voice/Data Consultant	15,000			
Value Engineering Participation & Implementation	25,000			
Constructability Review Participation	25,000			
Environmental Mitigation Services (EIS)	40,000			
Landscape Consultant	70,000			
Other	80,000			
Haz Mat Consultant	20,000			
Acoustical Consultant	25,000			
Reimbursables	50,000			
Door Hardware Consultant	8,000			
Electronic Audio Visual Consultant	15,000			
Interior Design Consultant	35,000			
Kitchen Consultant	20,000			
Permit Expeditor	5,000			
Renderings, Presentations, Models	10,000			
Security Consultant	10,000			
Site Survey	20,000			
Partnering	2,000			
SubTotal: Extra Services		**770,000**	1.0946	**842,842**
Other Services				
Bid/Construction/Closeout	189,682			
On site Representative	187,200			
SubTotal: Other Services		**376,882**	1.1330	**427,007**
Design Services Contingency				
Design Services Contingency	177,408			
SubTotal: Design Services Contingency		**177,408**	1.1330	**201,003**
Total: Consultant Services		**1,951,485**	1.1021	**2,150,718**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	5,888,003			
Additional Escalation	420,000			
SubTotal: Facility Construction		**6,308,003**	1.1330	**7,146,967**
Maximum Allowable Construction Cost (MACC)		**6,308,003**	1.1300	**7,146,967**
Construction Contingencies				
Management Reserve	315,400			
Allowance for Change Orders	630,800			
SubTotal: Construction Contingencies		**946,200**	1.1330	**1,072,045**

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
Sales Tax		652,878	1.1330	739,711
Total: Construction Contracts		7,907,081	1.1330	8,958,723
EQUIPMENT				
E10 - Equipment	148,000			
E20 - Furnishings	300,000			
SubTotal:		448,000	1.1330	507,584
Sales Tax		40,320	1.1330	45,683
Total: Equipment		488,320	1.1330	553,267
ART WORK				
Total: Art Work		35,735	1.0000	35,735
OTHER COSTS				
Permitting, Insurance, Connectivity	267,328			
Total: Other Costs		267,328	1.1314	302,455
PROJECT MANAGEMENT				
Agency Project Management	667,102			
Total: Project Management		667,102	1.0000	667,102

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360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

*

Cost Estimate Number: 18
Cost Estimate Title: UW House of Knowledge

Report Number: CBS003
Date Run: 8/13/2008 8:59AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	30000021	30000021
Cost Estimate Number	18	18
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

Biological and Environmental Sciences Building (A Living Building for a Living Science)

AUGUST 15, 2008

Institution			**Agency Code**
University of Washington			360
Project Title		**Category of Project**	**Project Number**
Biological and Environmental Sciences Building		GROWTH	30000019
County	**City**		**Legislative District**
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
No			
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	7/1/09	12/31/09
Design	4/1/10	6/30/11
Bid	GC/CM project bids occur over Design & Const.	
Construction/Occupancy	7/1/11	6/30/13

2. Problem Statement (short description of the project – the needs and the benefits)

We live in a world where approaches to research and science education are changing at an amazing pace. Under our current infrastructure, the Department of Biology cannot provide adequate educational opportunities for the students in the State of Washington. This is occurring at a time when there is an overwhelming national need for education in the Biological Sciences. Research efforts and student education is the fuel for new discoveries and new economic developments in our region and the nation, yet the Department of Biology currently cannot meet the demand.

The Department of Biology is among the most preeminent programs at the University of Washington. It has earned national recognition for research excellence, has seen a steady increase in grant support for the last five years and has graduated about 480 Bachelor degrees in 2007 (up 20% each year for the last four years). It is the gateway for all allied health sciences and provides service education for a wide swath of disciplines on campus in many different colleges. Because of this important role, the department anticipates significant growth in the faculty number from the current 29 FTE to approximately 42. The current infrastructure cannot, however, support either the present mission or this planned growth because:

- Research labs are out-dated, many lacking appropriate HVAC adequate for much of the current equipment needs;
- There are too few research labs for the anticipated faculty size;
- Instructional spaces are inefficient and out-dated, limiting both the quality and quantity of our instructional mission; and
- The faculty are spread among a multitude of buildings, inhibiting coordination of efforts and facilities.

The predesign study will develop the project scope with the general goals of providing a facility of approximately 82,500 gross square feet (gsf) of research and teaching space. Ultimately a larger building is planned with additions occurring in later phases. The Biological and Environmental

Sciences Building (BES) will combine state-of-the-art research and teaching labs, classrooms, lecture halls, conference spaces, an active research and teaching greenhouse, genetic resource collections, herbaria, display space, and shared support space. The building will incorporate new designs for teaching labs that increase efficiency for laboratory and classroom instructional experiences, and the newest technologies for sustainable construction. It will be one of the "greenest" public buildings in the world.

3. History of the project or facility

Developments in biology in the last half century have changed our understanding of life, and our lives themselves. New frontiers of research, new areas of instruction, and new approaches to instruction make this an extraordinary time for the Department of Biology. Indeed, the changes in the field of biology were the impetus for the creation of an integrated department. As the Department of Biology prepares for the next half century, it envisions a new building for research, teaching, and outreach – **a living building for a living science** – one that delivers the finest learning and discovery environment for the greatest number.

In the University of Washington's 2009-2011 Capital Budget Request the University will request $8,000,000 in state funding for a predesign study and the design funding phase for a new Biological and Environmental Sciences Building to be constructed on the Seattle campus. The University of Washington will request construction funding of $72,000,000 in the 2011-2013 Capital Budget. Additional funding will be pursued from grant, foundation sources and individual donors.

4. University programs addressed or encompassed by the project

The Department of Biology and the College of the Environment.
Flora and fauna collection space is planned in the new building would also benefit the Burke Museum of Natural History and Culture.

The Department of Biology is one of the largest undergraduate degree programs on campus, with nearly 1,000 majors. Students may choose to follow a curriculum leading to a B.A. or a B.S. in General Biology or a B.S. in Biology with an emphasis in one of five sub-disciplines: Molecular, Cellular, & Developmental Biology; Physiology; Ecology & Evolutionary Biology; Environmental & Conservation Biology; and Plant Biology. Nearly 50 percent of our undergraduate majors are engaged in faculty-mentored research projects, contributing new and exciting discoveries to their research field.

There are approximately 100 Ph.D. students in the Department of Biology's graduate program. Graduate students take advanced courses to increase the depth of their knowledge in specific areas, rotate through research labs to expand their repertoire of scientific techniques, and teach courses in order to develop their skills as educators and strengthen their knowledge of basic biology.

Faculty Research areas include the following: Behavior, Biology Education, Developmental Biology, Ecology & Conservation, Evolution & Systematics, Genetics & Genomics, Marine Biology, Mathematical Biology, Molecular & Cellular Biology, Neurobiology, Paleobiology, Physiology, Plant Biology.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- Increases the number of bachelor's degrees awarded (200 FTE)
- Increases the number of high-demand fields (200 FTE)
- Increases number of advanced degrees awarded
- Economic development & innovation

  The Department of Biology researches a wide array of biological sub-disciplines spanning from molecules to ecosystems. Basic research findings expand our knowledge of the natural world and can have broad impacts in fields such as conservation, technology, and human health.
- Promotes partnerships with K-12 and other public and private institutions

  The Department of Biology houses the Master of Science Biology for Teachers program. This interdepartmental and interdisciplinary program is designed for biology teachers in K-12 schools and community colleges. The department is also home to two life science programs for middle-school teachers, both funded by the Howard Hughes Medical Institute. Both programs are designed to familiarize teachers with the hands-on learning techniques essential to teaching life sciences. K-12 teachers and other science educators also have year-round access to the Ingrith Deyrup-Olsen Biology Teachers Resource Center, which offers a wide variety of materials helpful to those teaching life sciences.
- Promotes safety from violence for students, faculty and staff

  Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The 2001 Seattle Campus Master Plan was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the UW Master Plan can be found at http://www.washington.edu/community/cmp_site/final_cmp.html.

The program for the Biological and Environmental Sciences Building initial target includes approximately 82,500 gsf but requires a site that allows for future expansion. The project would address specific goals of the campus master plan:

- **Respect Its Stature:** The Campus Master Plan should honor the status of the campus as a national treasure, a work of art, and a triumph of environmental design, enriching life with a harmonious marriage of space, form and participation.
  - The building will be located on the current site of the UW greenhouses. New greenhouses will be incorporated in the building which will derive much of its

  - design inspiration from nature and the beauty and sustainability of living organisms.
- **Maximize Flexibility**: The Campus Master Plan should provide the maximum amount of flexibility in order to best accommodate future growth and take advantage of unforeseen opportunities.
  - The building will be designed to provide maximum flexibility to allow it to adapt to changing research and instructional needs in the future and for expansion in future phases.
- **Enhance the Campus:** The Campus Master Plan should create an aesthetic quality appropriate to the campus as a whole and to specific areas, conserving and improving existing buildings, open spaces, and views on campus, and looking for opportunities to create additional open spaces.
  - The Biological and Environmental Sciences Building will integrate its greenhouses into the building enhancing its aesthetic quality, teaching opportunities and energy efficiency.
- **Provide Accessibility:** The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.
  - Accessible routes will be created to offer people with disabilities entrances to the building and adjacent landscaping.
- **Promote Safety:** The Campus Master Plan should help create a safe and healthy environment, with personal and workplace safety considerations integral to planning and design of circulation elements, buildings, and open spaces.
  - Exterior lighting and circulation and landscaping will be designed to enhance occupant and visitor safety.
- **Respect the Environment:**The Campus Master Plan should value the environment and strive to promote the conservation of natural resources and goals of the Growth Management Act and Shoreline Management Act.
  - The Biological and Environmental Sciences Building is intended to be the “greenest” building on campus and provide an example the next generation of sustainable architecture. The building itself with teach and inspire new possibilities with campus building can work in harmony with nature.
- **Encourage Efficiency:** The Campus Master Plan should encourage efficiency and economy in University operations, with advantageous locations for facilities and advantageous adjacencies of uses.
  - A hallmark of sustainable architecture and a goal of this building is to meet program goals using the least amount of energy possible.
- **Value the Community:** The Campus Master Plan should recognize the importance of the surrounding communities and strive to achieve compatible working relationships with these communities to improve the quality of life and public benefits for all in the vicinity.
  - The current greenhouses are a campus treasure enjoyed by many besides botanists and students in the biology classes. The new building will combine the greenhouses, research labs, instructional spaces, and collections displays to create an even richer and more valued experience benefiting the entire community..

(b) Campus Facilities Plan

Site 21C in the University of Washington's Master plan was chosen for this new building because of its proximity to the departments who are the prime research and teaching collaborators. This site also offered enough area to support the phased expansion of the building and has the necessary solar exposure needed to for some of the key sustainable goals. The greenhouses currently located on this site will be incorporated into the new building as a key design element in the living building concept.

(c) Strategic Plan.
The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for construction funding for a new BES Building is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
    - This building will bring relief in a major access bottleneck for students majoring in Biology or taking courses in preparation for majors in the health sciences. The College of the Environment is in the process of creating new integrated programs to address high student interest and critical needs in society.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
    - The UW ranks first in the nation in federal research funding for public universities. The BES Building will help the UW maintain that leadership by providing more laboratory space. The lack of lab space is the key obstacle to increasing grant and foundation research funding.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
    - The BES Building will house two programs, the Department of Biology and the College of the Environment. These programs will take a leading role in responding to complex environmental threats like global warming and the loss of biodiversity that are defining challenges of our times.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
    - The BES Building will be an extraordinarily "green" building. The building itself will educate and inspire the campus to set the bar higher on how sustainable a building can be.
    - The building will be designed for flexibility to cost effectively adapt to changing needs in the rapidly evolving field of research.
    - The building will meet at least Leadership in Energy and Environmental Design (LEED) Silver requirements
    - Life cycle cost analysis will be used throughout the design process.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

> The Biological and Environmental Sciences Building is the eleventh priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and our second priority in the Research category.

7. 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 basic biological sciences provide the gateway to careers in the biotech sector and the allied health sciences. The vast majority of students heading for these career paths pass through the curriculum of the Biology department. Additionally, many students with strong career interests in the environmental sciences take entry and advanced level courses in Biology. Finally, there are significant directional changes in engineering programs with growth in molecular and neural systems foci. These factors lead to an increased demand for instruction and research. We have seen a fairly common backlog of about 200 FTE requesting entry into our program because of infrastructural limits mentioned above.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields, as defined by the HECB, and the particular fields in which such growth is expected to occur.

200 FTE

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. 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.

All classroom, instructional labs, offices spaces in the proposed building will comply or exceed FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility:	50,525 asf
(b) Gross square feet (GSF):	82,500 gsf
(c) Net building efficiency (ASF divided GSF):	61% (science building)

Because of large greenhouse spaces, open labs, large & large collection rooms, 61% efficiency is our goal. This goal will be verified in the predesign process.

.

10. Reasonableness of Cost:

Although the below listed projects are not geographically located in our region, the projects listed represent a more comparable analysis of the scope of work. These facilities house a small vivarium, which will also be included in this scope of work. The projects vary in sizes, which would affect the costs. Adjustments for the varying sizes of the projects are not included. These projects have been amended for the Seattle market per RS Means 2006 Facilities Construction Cost Data Along with the geographical adjustment, escalation as well as local market conditions were added per historical information.

The first project is located on the University of Washington's campus so a location adjustment was not needed. The LiKa-Shing Research building located in Berkeley, CA includes a location factor of (104.2/117.5) 88.7%. The Biomedical Research Facility in Santa Cruz is built out with a 12,000 sf vivarium, 18,000 sf of lab support and 10,000 sf academic and administrative. The location factor for this project is 92.4%. The Life Sciences Laboratory at the University of Michigan includes a location modifier of (104.2/101.2) 103%. This project consists of a 33,000 sf vivarium as well as wet labs and support spaces. The Broad Center consist of 44% lab, 10% conference/seminar/audit, 15% vivarium, 31% EM/MRI Facility. The location factor is consistent with Seattle. Pasadena is 104.4 and Seattle's is 104.2.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Biological & Environmental Sciences Bldg.	University of Washington Seattle, WA	82,500	$80,000,000	$969.70	Jun 2013	0%	$969.70
Molecular Engineering	University of Washington Seattle, WA	77,000	$78,500,000	$1019.48	Oct 2011	6.9%	$1036.61

Li Ka-Shing Biomedical Research	U CB Berkeley, CA	206,000	$160,886,000	$781.00	Mar 2010	14.7%	$895.00
Biomedical Research Facility	Univ of CA Santa Cruz	92,300	$76,664,572	$830.60	Nov 2009	17.0%	$971.80
Life Sciences Institutes Laboratory	Univ of Michigan Ann Arbor, MI	233,000	139,101,000	$597.00	Jun 2003	87.8%	$1121.17
Broad Center for Biological Sciences	California Institute of Technology	120,000	$64,223,450	$535.19	Jul 2002	94.7%	$1042.03

The University of Washington proposes to use the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW, to accomplish this project in the most cost-effective manner. Detailed coordination will be necessary to minimize disruption to adjacent buildings that will remain occupied during construction and to maintain the required vehicular, service and pedestrian access around the site. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions concerning: the configuration of the construction staging area and methods of construction both above and below grade. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

11. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	36,378	72%
Student Advising/Counseling Services	1,011	2%
Childcare	0	0%
Faculty offices	7,579	15%
Administrative	5,558	11%
Maintenance/Central Stores/Student Center	0	0
Total	50,525	100%

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000023
Project Title: **Biological & Environmental Sciences Building**

Description

Starting Fiscal Year: 2010
Project Class: Program
Agency Priority: 18

Project Summary

In 2009-2011, the University of Washington will request state funds of $8,000,000 for a pre-design study and design funding for a new Biological & Environmental Sciences Building to be constructed on the Seattle campus. The University of Washington will request construction funding of $72,000,000 in the 2011-2013 Capital Budget. An additional $80,000,000 will be raised from donor and grant sources for a total project budget of $160,000,000. The Biological & Environmental Sciences Building will combine state-of-the-art research and teaching labs, classrooms, lecture halls, conference spaces, an active research and teaching greenhouse, genetic resource collections, herbaria, display space, and shared support space. The building will incorporate new designs for teaching labs that increase efficiency for laboratory and classroom instructional experiences, and the newest technologies for sustainable construction. It will be one of the "greenest" teaching and research buildings in the nation.

Project Description

In 2009-2011, the University of Washington will request state funds of $8,000,000 for a pre-design study and design funding for a new Biological & Environmental Sciences Building to be constructed on the Seattle campus. The University of Washington will request construction funding of $72,000,000 in the 2011-2013 Capital Budget. An additional $80,000,000 will be raised from donor and grant sources for a total project budget of $160,000,000.

The Biological & Environmental Sciences Building will combine state-of-the-art research and teaching labs, classrooms, lecture halls, conference spaces, an active research and teaching greenhouse, genetic resource collections, herbaria, display space, and shared support space. The building will incorporate new designs for teaching labs that increase efficiency for laboratory and classroom instructional experiences, and the newest technologies for sustainable construction. It will be one of the "greenest" teaching and research buildings in the nation.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

See Growth Management Act Questionaire

New Facility: Yes

How does this fit in master plan

Yes. See UW Master Plan link at GMA Questionaire attachment.

Funding

			Expenditures		**2009-11 Fiscal Period**	
Acct Code	**Account Title**	**Estimated Total**	**Prior Biennium**	**Current Biennium**	**Reapprops**	**New Approps**
057-1	State Bldg Constr-State	80,000,000				8,000,000
	Total	**80,000,000**	**0**	**0**	**0**	**8,000,000**

Future Fiscal Periods

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000023**
Project Title: **Biological & Environmental Sciences Building**

Funding

		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State	72,000,000			
	Total	**72,000,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	06/01/2004	12/01/2009
Design	4/1/2010	7/1/2011
Construction	7/1/2011	7/1/2013

	Total
Gross Square Feet:	82,500
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	541
Construction Type:	Other Schedule A Projects
Is this a remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.32%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		435,461	0.5%
Construction Documents		2,132,146	2.7%
Extra Services		2,408,922	3.0%
Other Services		1,621,324	2.0%
Design Services Contingency		885,690	1.1%
Consultant Services Total		**7,483,543**	**9.4%**
Maximum Allowable Construction Cost(MACC)	**44,645,486**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		44,645,486	55.8%
GCCM Risk Contingency		1,283,849	1.6%
GCCM or Design Build Costs		6,826,600	8.5%
Construction Contingencies		6,696,823	8.4%
Non Taxable Items		0	0.0%
Sales Tax		5,350,748	6.7%
Construction Contracts Total		**64,803,506**	**81.0%**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000023**
Project Title: **Biological & Environmental Sciences Building**

Cost Summary

	Escalated Cost	% of Project
Equipment		
Equipment	3,391,158	4.2%
Non Taxable Items	0	0.0%
Sales Tax	305,204	0.4%
Equipment Total	**3,696,362**	**4.6%**
Art Work Total	**223,227**	**0.3%**
Other Costs Total	**1,025,215**	**1.3%**
Project Management Total	**2,768,147**	**3.5%**
Grand Total Escalated Costs	**80,000,000**	
Rounded Grand Total Escalated Costs	**80,000,000**	

Operating Impacts

No Operating Impact

Narrative

Services contracted through capital budget

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number: 32
Cost Estimate Title: Biological and Environmental Sciences Bldg
Report Number: CBS003
Date Run: 8/13/2008 9:01AM

Version: 01 2009-11, Draft
Project Number: 30000023
Project Title: Biological & Environmental Sciences Building
Project Phase Title:
Agency Preferred: Yes

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	82,500
Usable Sq. Ft.:	0
Space Efficiency:	0%
MACC Cost per Sq. Ft.:	472
Escalated MACC Cost per Sq. Ft.:	541
Remodel?	No
Construction Type:	Other Schedule A Projects
A/E Fee Class:	A
A/E Fee Percentage:	7.32%

Schedule

	Start Date	End Date
Predesign:	06-2004	12-2009
Design:	04-2010	07-2011
Construction:	07-2011	07-2013
Duration of Construction (Months):	24	

Cost Summary Escalated

Acquisition Costs Total			0
Pre-Schematic Design Services		435,461	
Construction Documents		2,132,146	
Extra Services		2,408,922	
Other Services		1,621,324	
Design Services Contingency		885,690	
Consultant Services Total			**7,483,543**
Site work		0	
Related Project Costs		0	
Facility Construction		44,645,486	
Construction Contingencies		6,696,823	
Non Taxable Items		0	
Sales Tax		5,350,748	
Construction Contracts Total			**64,803,506**
Maximum Allowable Construction Cost(MACC)	**44,645,486**		
Equipment		3,391,158	
Non Taxable Items		0	
Sales Tax		305,204	
Equipment Total			**3,696,362**
Art Work Total			**223,227**
Other Costs Total			**1,025,215**
Project Management Total			**2,768,147**
Grand Total Escalated Costs			**80,000,000**
Rounded Grand Total Escalated Costs			**80,000,000**

Additional Details

Alternative Public Works Project: Yes

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number: 32
Cost Estimate Title: Biological and Environmental Sciences Bldg

Report Number: CBS003
Date Run: 8/13/2008 9:01AM

Version: 01 2009-11, Draft
Project Number: 30000023
Project Title: Biological & Environmental Sciences Building
Project Phase Title:

Agency Preferred: Yes

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate: 3.50%
Base Month and Year: 07-2008
Project Administration By: AGY
Project Admin Impact to GA that is NOT Included in Project Total: $0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	32	**Analysis Date:**	July 31, 2008
Cost Estimate Title:	Biological and Environmental Sciences Bldg		
Detail Title:	Biological and Environmental Sciences Bldg		
Project Number:	30000023		
Project Title:	Biological & Environmental Sciences Building		
Project Phase Title:			
Location:	Seattle		
Contact Info	**Contact Name:** Amy Engel	**Contact Number:**	206.616.4321

Statistics

Gross Sq. Ft.:	82,500
Usable Sq. Ft.:	
Rentable Sq. Ft.:	
Space Efficiency:	
Escalated MACC Cost per Sq. Ft.:	541
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule A Projects
Remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.32%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule	Start Date	End Date
Predesign:	06-2004	12-2009
Design:	04-2010	07-2011
Construction:	07-2011	07-2013
Duration of Construction (Months):	24	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 38,903,351
MACC (Escalated):	$ 44,645,486
Current Project Total:	$ 70,385,247
Rounded Current Project Total:	$ 70,385,000
Escalated Project Total:	$ 80,000,000
Rounded Escalated Project Total:	$ 80,000,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	300,000			
Environment Analysis	60,000			
Site Programming	50,000			
SubTotal: Pre-Schematic Design Services		**410,000**	1.0621	**435,461**
Construction Documents				
A/E Basic Design Services	1,964,930			
SubTotal: Construction Documents		**1,964,930**	1.0851	**2,132,146**
Extra Services				
Civil Design (Above Basic Services)	70,000			
Geotechnical Investigation	200,000			
Commissioning (Systems Check)	150,000			
Site Survey	35,000			
Testing	250,000			
Leadership Energy & Environment Design List(LEED)	180,000			
Voice/Data Consultant	25,000			
Landscape Consultant	150,000			
Acoustical Consultant	50,000			
Haz Mat Consultant	30,000			
Elevator Consultant	25,000			
Communications Consultant	30,000			
Graphics	20,000			
Interior Design	250,000			
Specialty Consultants	200,000			
Phasing/Early Bid Packages	30,000			
Quality Control Consultant	25,000			
Electronic AudioVisual	50,000			
Reimbursables/Doc Repro	250,000			
Other	150,000			
Lighting Design and Calculations	20,000			
Door Hardware Consultant	5,000			
Transportations Coordination	25,000			
SubTotal: Extra Services		**2,220,000**	1.0851	**2,408,922**
Other Services				
Bid/Construction/Closeout	882,795			
HVAC Balancing	80,000			
Construction Support	450,000			
SubTotal: Other Services		**1,412,795**	1.1476	**1,621,324**
Design Services Contingency				
Design Services Contingency	600,773			
Change Order Design Allowance	171,003			
SubTotal: Design Services Contingency		**771,776**	1.1476	**885,690**
Total: Consultant Services		**6,779,501**	1.1038	**7,483,543**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	36,772,000			
Additional Escalation	2,131,351			
SubTotal: Facility Construction		**38,903,351**	1.1476	**44,645,486**
Maximum Allowable Construction Cost (MACC)		**38,903,351**	1.1500	**44,645,486**
GCCM Risk Contingency				
GCCM Risk Contingency	1,118,725			
SubTotal: GCCM Risk Contingency		**1,118,725**	1.1476	**1,283,849**

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
GCCM or Design Build Costs				
GCCM Fee	1,979,104			
Bid General Conditions	2,177,014			
GCCM Preconstruction Services	450,000			
Construction Support Services	1,342,470			
SubTotal: GCCM or Design Build Costs		**5,948,588**	1.1476	**6,826,600**
Construction Contingencies				
Management Reserve	1,945,168			
Allowance for Change Orders	3,890,335			
SubTotal: Construction Contingencies		**5,835,503**	1.1476	**6,696,823**
Sales Tax		**4,662,555**	1.1476	**5,350,748**
Total: Construction Contracts		**56,468,722**	1.1476	**64,803,506**
EQUIPMENT				
E10 - Equipment	450,000			
E20 - Furnishings	2,505,000			
SubTotal:		**2,955,000**	1.1476	**3,391,158**
Sales Tax		**265,950**	1.1476	**305,204**
Total: Equipment		**3,220,950**	1.1476	**3,696,362**
ART WORK				
Total: Art Work		**223,227**	1.0000	**223,227**
OTHER COSTS				
Permit, Insurance, Connectivity	924,700			
Total: Other Costs		**924,700**	1.1087	**1,025,215**
PROJECT MANAGEMENT				
Agency Project Management	2,708,147			
Preactive PM Fees	60,000			
Total: Project Management		**2,768,147**	1.0000	**2,768,147**

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360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

Cost Estimate Number: 32
Cost Estimate Title: Biological and Environmental Sciences Bldg

Report Number: CBS003
Date Run: 8/13/2008 9:01AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	30000023	30000023
Cost Estimate Number	32	32
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

GLOBAL PUBLIC HEALTH AND PHARMACY BUILDING

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
Global Public Health and Pharmacy Building		GROWTH	3000023
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
No			N/A
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule

	Start Date	Complete Date
Predesign	July 2009	December 2009
Design	January 2010	June 2011
Bid	GC/CM	GC/CM
Construction/Occupancy	July 2011	July 2013

2. Problem Statement (short description of the project – the needs and the benefits)

An acute space shortage within the Health Sciences impedes the University's ability to grow enrollments and modernize its education and training programs. The opportunity to increase enrollment is directly linked to the availability of effective instructional space, student access to teaching faculty, responsiveness of academic programs to areas of critical state need in employment opportunities, and high technology support resources to ensure our graduates' competitiveness. As described in the Higher Education Coordinating Board's 2008 Strategic Plan, expanding access to education is essential to address the state's areas of critical need in the workforce. In response, within the Health Sciences, expanded enrollments are under consideration by the Regional Initiatives in Dental Education Program (RIDE) program, have been emphasized by the accrediting bodies of the Schools of Nursing and Pharmacy (both considered areas of critical state need for Washington), and stimulated by strong student interest in new Public Health, Global Health and Nutritional Sciences undergraduate majors.

<u>Project Scope and Description</u>

Because existing instruction and support facilities are at full capacity, the University of Washington is requesting $8 million of state funding for a predesign study and the design phase for a new Global Public Health and Pharmacy Building on the Seattle campus**.** The eight floors of the building will provide at least six additional general instruction classrooms, a 200-seat lecture hall, a distance learning center, faculty offices, research laboratories, student advising, student study space, program administrative support space, and specialized training spaces needed by the Schools of Pharmacy and Public Health.

By providing additional shared instruction spaces, this facility will help other Health Sciences schools accommodate enrollment growth goals. The space above the lecture hall and adjacent classrooms will address the School of Pharmacy's office and laboratory needs and provide the School of Public Health and Community Medicine (SPHCM) spaces to support undergraduate and graduate teaching, research training, and needed specialized support spaces.

This building will establish a much needed campus home for the synergy and collaboration that distinguish the fields of public health and pharmacy in a global environment. Consolidating faculty (two thirds of SPHCM's faculty are located off-campus), instructional space, student advising and services, and research program offices and labs will help bring together units currently scattered in multiple locations; a situation that creates barriers to student access to teaching faculty mentors, advisors, and research training experiences.

Located on the south side of Pacific Street at the intersection with a pedestrian overpass linking upper and lower campus, this facility will also enhance opportunities for collaborative teaching and research across the University. It will serve as an on-campus focal point for interdisciplinary Global Health training. Creating a talented workforce to solve real health problems requires the participation of many different academic disciplines.

Project Needs and Benefits. Proximity to the Health Sciences Center will give students access to the faculty, facilities and interdisciplinary education required to respond to Washington's emerging workforce training needs. It facilitates the creation of new undergraduate majors in Global Health, Public Health, and Nutritional Sciences. Expanded distance learning resources will extend the campus to practicing professionals in Health Sciences disciplines throughout the state and world, particularly those working in rural and under-resourced areas. Additionally, the proposed building will address the stated problem both for the Schools of Pharmacy and Public Health as well as several Health Sciences units as follows:

- **Efficiently grow enrollments by addressing the shortage of instructional spaces** through creating at least six modular shared classrooms, student service advising spaces, study space, distance learning center, emergency preparedness training center, and a 200-seat lecture hall to meet the growing undergraduate and graduate instructional needs of several Health Sciences schools.
- **Provide cost-efficient, on-campus, specialized as well as multi-use training and professional practice facilities, and extend professional training to rural practitioners by:**
    - Designing Health Insurance Portability and Accountability Act (HIPAA) compliant, modular break-out rooms to support instruction (study sections), training (confidential patient and study participant interviews), student advising, and small meetings. Spaces will have easily dividable, flexible spaces that can adapt to a range of instructional requirements.
    - Constructing a Pharmacy compound/mixing teaching space for technical and clinical skills that leverage on current technologies for pharmaceutical practice. The current pharmaceutical care teaching center is in loaned space too small to accommodate increasing demands and new approaches. A larger lab in dedicated space could serve more students and attract donor support for equipment and other needs.
    - Instituting a distance learning center to extend the schools' educational missions to rural and underserved areas of Washington including local health jurisdictions and pharmacy practitioners around the state and around the globe, thereby increasing enrollments.
    - Establishing a Public Health emergency preparedness and response center to offer both training and support to students, public health responders, and local municipalities to design and test plans and respond effectively to natural disasters and epidemics.
- **Create additional Pharmacy wet labs** to alleviate faculty retention and recruitment problems, which have a direct impact on the educational experience for professional and graduate students.

- **Consolidate and integrate space for interdisciplinary activities** by leveraging on the natural relationship between Global Health, Pharmacy, and Public Health. Students will be trained to collaboratively engage in the discovery of practical, cost-efficient interventions to address the health of Washington citizens and local/global underserved populations.
- **Create an emergency preparedness training center.**
- **Achieve Leadership in Energy and Environmental Design (LEED) Silver requirements.**
- **Prepare an expanded number of University undergraduates and graduate students** to receive academic training in the areas of critical state need for the allied health sciences.
- **Provide general use classrooms and large lecture halls** to address enrollment growth in the Health Sciences education programs.
- **Enhance the student learning environment** by adding new spaces designed to meet current instructional requirements, student study spaces, and more effective student advising spaces.
- **Establish a campus focal point for the interdisciplinary Department of Global Health** that will enhance its visibility to the educational, practice, and philanthropic communities.
- **Consolidate space for faculty**, who will benefit from co-location with colleagues, research facilities, students, and instruction space.
- **Provide a distance learning resource center** for continuing professional education.
- **Create opportunities for more collaborative research** that can result in entrepreneurial ventures, job creation, and general economic development while providing indirect cost returns to support facilities and administrative costs to the University.

3. History of the Project

School of Pharmacy

- 2004: Pharmacy received funding to increase enrollments from 86 to 93 in response to an RFP, ***Expansion of Enrollment Opportunities in High-demand Fields,*** to "increase the number of graduates in a field where reports consistently indicate extremely high demand for skilled workers." In evaluating this initiative following admission of a larger class in the 2004-05 academic year, the School's report to the HEC Board noted: "As anticipated the most difficult challenge has been the issue of classroom space, most importantly in the laboratory sections.

School of Public Health and Community Medicine (SPHCM) The need for space for SPHCM has been documented since 1978. Conclusions regarding these space needs are summarized as follows:

- 1987: NBBJ consultants conduct a comprehensive assessment of SPHCM space requirements, noting a 1987 projected deficit of 45,000 ASF, increasing to a deficit of 70,000 ASF by 2002..
- 1994: SPHCM undertook a comprehensive Facilities Master Plan documenting challenges created by not addressing the School's on-campus space requests. Those included the loss of research and educational productivity as well as critical faculty recruitments, foregone revenues from grants hosted by affiliate institutions, and barriers to collegiality and student mentoring due to faculty dispersion.
- 2005: the Schools of Medicine and Public Health initiated a joint Department of Global Health to "serve as a model for integration of educational, research, and service activities, all focused on substantive improvement of health in developing countries." While the bench research elements would be concentrated at South Lake Union, the new undergraduate academic program and office-based interdisciplinary research supporting graduate programs involving on campus units (e.g., Public Affairs, International Studies, Nutritional Sciences, Business, Law, and the Center for Ecology and Demography) would be housed within the proposed new SPHCM building.

4. University Programs Addressed/Encompassed: Health Sciences Interdisciplinary Training for Undergraduate, Graduate, Extension, and Certificate Program Students

The University's practice of campus-wide general classroom assignment will extend these benefits to other units involved in interdisciplinary instruction. New instruction and distance learning spaces will help each school support its enrollment growth objectives.

Gaining specially designed research training space in Pharmacy and Public Health will accrue indirect cost revenue to support facilities and operations, while benefiting the schools' student populations and the wider practice community (e.g., distance learning will extend the campus to the practitioner's desktop and provide summer certificate programs).

School of Pharmacy. The School of Pharmacy prepares professional pharmacists in its PharmD (Doctor of Pharmacy) program. It also has PhD programs in Medicinal Chemistry, Pharmaceutics, and Pharmaceutical Outcomes in which students pursue advanced studies in fields such as drug interactions, drug disposition, and health outcomes and policies. Faculty have active research programs that not only discover new science but also serve as training experiences for graduate students and postdoctoral scholars. The Mass Spectrometry and DNA Sequencing and Gene Analysis Centers provide services to the University and the greater research community.

School of Public Health and Community Medicine. Central to SPHCM's longstanding desire for a new building is the ability to consolidate in the same facility faculty from the departments of Epidemiology, Biostatistics, and Global Health. The new space would permit SPHCM to reorganize currently over-crowded spaces to better align research and academic training in these departments. and permit greater consolidation.

Other UW Units. By nature public health education is interdisciplinary and sought by units across the campus. Especially with the School of Medicine and School of Public Health Joint Department of Global Health, additional instructional space and faculty research capacity will benefit such diverse units as Nursing, Social Work, Dentistry, Medicine, Public Affairs, Pharmacy, Engineering, Statistics, Educational Outreach, Genetics, Anthropology, Law, Business, and Geography. This collaboration will provide the basis for a new undergraduate major in Global Health, leading to substantial increased enrollment capability.

5. Integral to Achieving Statewide Policy Goals

Promotes Achievement of Statewide 2008 Higher Education Coordinating Board (HECB) Strategic Master Plan:

- **HECB Challenge Goal One**: "create a high quality higher education system that provides expanded opportunity for more Washingtonians to complete post-secondary degrees, certificates and apprenticeships."
- **HECB Challenge Goal Two:** "create a higher education system that drives economic prosperity, innovation and opportunity."

To fill unmet demand in employment fields of critical state need, the **HECB established a policy goal** to "expand bachelors and advanced degree programs in science, technology, engineering, mathematics, and **health sciences**…" Well trained allied health professionals are in areas of critical state need by Washington employers. Responding to this goal, the proposed building will grow enrollment by adding classrooms, a lecture hall, specialized and modular instruction spaces, training labs, and a distance learning center while enhancing our ability to recruit talented teaching faculty with strong research credentials.

Increases Number of Bachelor's Degrees Awarded: The University's ability to add three large bachelor's degree majors is dependent on access to space. As new degrees they expand enrollment capabilities beyond 2011. Space will be identified within the building to support the student advising and support services needed for the expansion of undergraduate majors.

Increases Bachelor's Degrees Awarded in High Demand Fields. The HECB defines two primary characteristics: (1) instructional programs or field in which student enrollment applications exceed available slots and (2) career fields in which employers are unable to find enough skilled graduates to fill available jobs. Among those identified are health care and technology, both of which will benefit from Public Health and Global Health majors with training in informatics, biostatistics, and epidemiology.

High Demand Majors. Student and employer demand for new undergraduate majors in Public Health, Global Health, and Nutritional Sciences and Dietetics is strong. For example, the current General Studies Public Health Major in Arts and Sciences is capped at 70 enrollees due to instruction support limits. Based on admissions applications this program could grow to 125. Historical trend data and student surveys indicate that with an infusion of instruction cost support and expanded instruction space, undergraduate enrollment could **grow rapidly by up to 330 student FTEs** (Public Health = +30 new, Nutritional Sciences and Dietetics = +100, Global Health = +200). Space would also be provided for a new undergraduate program under the Institute for Health Metrics and Evaluation.

Increases Advanced Degrees Awarded. A combination of additional space and financial support would result in the **following advanced degree enrollment projections** (see school descriptions below):

- Pharmacy – 36 student FTEs
- Dentistry – 17 student FTEs
- Public Health – 20 student FTEs

During the period from 1996 through 2005, SPHCM faculty research success enabled the School to nearly double graduate enrollments (from 447 to 807). There is a clear relationship between faculty research success and enrollment growth as well as facilities and instruction cost support.

Increases Economic Development through Theoretical or Applied Research. In addition to new instruction spaces, meeting these challenge goals will be supported through interdisciplinary pharmaceutical research labs and new public and global health research spaces, each leading to novel findings with the potential for benefiting commercial partners and the health of Washington citizens. New facilities will provide Pharmacy and SPHCM further opportunities to collaborate with Puget Sound institutions that are influencing global health and commerce, while building enrollment and continuing education training opportunities.

SPHCM is considered one of the nation's premier schools of public health and is ranked fourth nationally. Limiting enrollments due to funding and space constraints results in many deserving applicants being denied entry. Despite an applicant pool of the nation's top students, over 50% of all of SPHCM's professional degree graduates have chosen employment in Washington. Impressively, 84% of the high demand Master of Biostatistics degree graduates are employed in Washington, as are 60% of the Department of Environmental and Occupational Health Sciences graduates. As the pharmaceutical, global health, and biotechnology sectors grow, Washington and its employers benefit from increasing the number of SPHCM graduates and undergraduates.

Promotes Access for Underserved Regions and Place-bound Adults through Distance Learning. A vision shared by the Schools of Pharmacy and Public Health is to reach out to the practice community to "**extend the campus to the desktop**" through creation of a distance learning resource center, which is designed into the proposed building. This center will engage the Schools' faculty and the University of Washington's Educational Outreach Program to expand the number of self-sustaining degree and certificate programs that can be undertaken remotely through the Web. This resource will be particularly valuable to rural areas and through new Web technologies can reach throughout the state and across the globe with instruction, access to expertise, and distribution of information on best practices.

Based on the finding of two independent national studies in 2007 and 2008, there is clearly an urgent need for more pharmacists in the state, a demand expected only to grow with the number of new medications for chronic illnesses, the aging of the population, a rapid increase in the volume of prescriptions, and expanded roles for pharmacists. The School of Pharmacy cannot expand enrollment to increase the supply of trained professionals to meet this demand without appropriate resource support.

Promotes Safety from Violence for Student, Faculty and Staff. An emergency preparedness training and incident command center will be established in the building. It will provide an integrated training resource for the allied health students in this critical discipline and, in times of emergency, serve as a community resource (particularly for smaller Puget Sound governmental units). Command center training will be extended to students, faculty, and staff to help prepare an efficient response to various emergency situations (workplace violence, major storm, catastrophic disaster, or pandemic). The leader of the preparedness planning group has joint appointments in Pharmacy and Public Health.

Promotes Partnerships. Enhancing the Joint Department of Global Health's impact is its work with the Washington Global Health Alliance's Education, Training Mentoring Program to create educational and research partnerships with K-12, other educational organizations, non-profit research institutions and potential commercial partners. As Seattle becomes the world's epicenter for Global Health, we will use this inter-disciplinary building as a focal point. Thus, the University is uniquely positioned to leverage on these community resources for training, research, and employment opportunities for our graduates. The proposed building will be a center for collaborative efforts in international health, student's Global Resource Center, joint pharmacy/epidemiology training, and health metrics to name but a few.

6. Integral to Institution's Planning and Goals:

Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,

The 2001 _Seattle Campus Master Plan_ was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html The project aligns with several Master Plan goals,

- **Maximize Flexibility**: The Campus Master Plan should provide the maximum amount of flexibility in order to best accommodate future growth and take advantage of unforeseen opportunities.
    - The building will be designed to provide maximum flexibility to allow it to adapt to changing research and instructional needs in the future.

- **Provide Accessibility:** The Campus Master Plan should ensure access to and within the campus, maximizing non-vehicular travel, emphasizing pedestrian routes for all pedestrians, and promoting the design of environments to be usable by all people, to the greatest extent possible, without the need for special arrangements or adaptations.
  - Accessible routes will be created to offer people with disabilities entrances to the building and adjacent areas.
- **Promote Safety:** The Campus Master Plan should help create a safe and healthy environment, with personal and workplace safety considerations integral to planning and design of circulation elements, buildings, and open spaces.
  - Exterior lighting and circulation and landscaping will be designed to enhance occupant and visitor safety.
- **Respect the Environment:** The Campus Master Plan should value the environment and strive to promote the conservation of natural resources and goals of the Growth Management Act and Shoreline Management Act.
  - The Global Health and Pharmacy Building will be designed to meet at least LEED Silver requirements.
- **Encourage Efficiency:** The Campus Master Plan should encourage efficiency and economy in University operations, with advantageous locations for facilities and advantageous adjacencies of uses.
  - The building design process will utilize life cycle cost analysis to make decisions that ensure long term efficiency.

(b) Campus Facilities Plan, and

From the project history section above there has been a long standing acknowledgement that more space is needed for these programs. Building site 52S was recently confirmed as the preferred location for a new building because of its proximity to partner departments and it size. The existing trailers will be removed to clear the site.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for construction funding for a new Building is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
  - This building will provide an opportunity to address student and employer demand for new undergraduate majors.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - Additional wet labs will help alleviate faculty retention and recruitment problems, which have a direct impact on the educational experience for professional and graduate students.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
  - The colocation of Global Health, Pharmacy, and Public Health will provide exciting opportunities for collaborative research that address major issues like affordable healthcare and delivery systems.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region..
  - Global Health is forefront of preparing leaders educated to integrate information and solutions in global context.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - The Building will be designed for flexibility to cost effectively adapt to changing needs in the rapidly evolving field of research.
- The building will meet at least LEED Silver requirements.
  - Life cycle cost analysis will be used throughout the design process

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

The Global Public Health and Pharmacy Building is the twelfth priority out of fifteen projects in the University of Washington's 2009-2011 Washington State Capital Budget Request, and our third priority in the Research category.

7. Enrollment Growth

Project Adds Capacity for State-Support Enrollment Growth. Three factors drive the ability to increase enrollment: availability of appropriate classroom and instruction spaces, access to the resources to cover instruction costs, and the availability of high quality teaching faculty. With additional classrooms, lecture hall, and specialized teaching spaces, this building represents the best opportunity for several Health Sciences schools to respond to proposed enrollment objectives, add new undergraduate majors to address high demand workforce fields, and meet accreditation expectations.

School of Pharmacy Enrollment Growth. Enrollment in the PharmD program is expected to increase from 86 to 100 FTE students over the next five years. This reflects the increasing need for professional pharmacists in the state

School of Public Health and Community Medicine Enrollment Growth. Enrollment has been limited at the 2005 level for graduates and at 2006 levels for undergraduates. Resource constraints also led to a limit of 70 enrollees in the undergraduate minor in Public Health, while the 2006 waitlist indicated that 90-125 undergraduate students hoped to take this pathway into a major in Public Health.

Internal trends are also stretching instructional resources. Public Health courses increasingly are listed as “required courses” for non-SPHCM degree programs. In 2002-03, non-SPHCM majors represented 19.37% of SPHCM class composition. This percentage grew steadily to 26.52% by 2007-08.

Undergraduate enrollment could **grow rapidly by up to 330 student FTEs** (Public Health by 30 new FTE, Nutritional Sciences and Dietetics by 100 new FTE and Global Health by 200 FTE). Space would also be provided for a new undergraduate program under the Institute for Health Metrics and Evaluation.

Adding classrooms and on-campus space for faculty help SPHCM manage increased demands for new Public Health curricula and provide the locus to offer the new undergraduate majors in public and global health and health metrics identified in the SPHCM’s and Department of Global Health’s strategic plans to meet local and global health workforce needs. Linked to Health Sciences, this building will help create unity, cohesiveness, and opportunities for interdisciplinary collaboration on the UW campus and assure that more indirect cost dollars go to the University than to space-rich affiliate institutions.

8. Availability of the Space

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project’s campus.

b. 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 institution’s plans for achieving that level of utilization.

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

9. Efficiency of Space Allocation

All classrooms, instructional labs, offices spaces in the proposed building will comply or exceed FEPG standards.

Constructing this building permits us to take full advantage of new ways to expand the yield of each space while ensuring that space designs and equipment match the training needs of the next generation of students and practicing professionals. The Health Sciences' longstanding general assignment approach to classroom scheduling allows full utilization of available instruction spaces through centralized scheduling and support.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility:	60,000 asf
(b) Gross square feet (GSF):	100,000 gsf
(c) Net building efficiency (ASF divided GSF):	60% (science building)

10. Reasonableness of Costs

The first project listed is geographically located in our region, with the scope being similar to that of Global Public Health and Pharmacy Building. The Cahill Center consists of a LEED accredited building to house classrooms, 145 seat auditorium, offices and support. The location index is 88.7% (Berkeley is 117.5 vs. Seattle at 104.2). The Central Dining and Office Facility at Berkeley is predominantly an office building with a cafeteria to serve students. Seismic stability was designed to accommodate seismic forces of 6.5 in order to house the campus' service center during an earthquake or other disruptive event. The office tower is designed with open office "cluster spaces". A location modifier of 88.7% was used. Moore Hall consists of 50% teaching, 26% classrooms, and 24% offices/admin. The location index for Hanover is 91.3, increasing the costs by 114.1%. The Arrillaga Alumni Center's costs are lower than the UW's Global Public Health and Pharmacy Building due to the alumni center is an open office floor plan. Global Public Health has a wet lab space, and is mostly private offices as well as more expensive teaching spaces. The square footages are comparable with 75% open office and 25% conference rooms. Palo Alto's location modifier is (115.1) is 90.5%. These projects have been amended for the Seattle market per RS Means 2006 Facilities Construction Cost Data. Along with the geographical adjustment, escalation as well as local market conditions were added per historical information as well as forecasted escalation for future years.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Global Public Health and Pharmacy Building	University of Washington Seattle, WA	100,000	$80,000,000	$800.00	Jul 2013	0%	$800.00

Wm. H. Foege Building	University of Washington Seattle, WA	280,240	$144,922,000	$517.13	Jun 2006	49.5%	$773.11
Cahill Center for Astronomy and Astrophysics	California Institute of Technology Pasadena, CA	100,000	$59,020,000	$590.20	Dec 2008	22.5%	$723.00
Central Dining and Office Facility	University of California Berkley, CA	87,726	$41,148,758	$469.06	Mar 2003	81.0%	$849.00
Moore Hall	Dartmouth College Hanover, NH	107,091	$42,561,875	$397.44	Sept 1999	104.8%	$813.95
Arrillaga Alumni Center	Stanford University Palo Alto, CA	116,400	$36,244,632	311.38	Dec 2000	100.0%	$622.77

The University of Washington proposes to use the General Contractor/Construction Manager (GC/CM) method, as authorized by the State Legislature in Title 39 RCW, to accomplish this project in the most cost-effective manner. Detailed coordination will be necessary to minimize disruption to adjacent buildings that will remain occupied during construction and to maintain the required vehicular, service and pedestrian access around the site. Including a General Contractor/ Construction Manager on the project team during the design phase will help the project team to make the most cost-effective decisions concerning the configuration of the construction staging area and methods of construction both above and below grade. The GC/CM will provide value engineering, constructability, cost estimating, and schedule development assistance during the design phase to minimize the potential for cost or schedule overrun.

11. Program-related Space Allocation

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	36,000	60%
Student Advising/Counseling Services	0	
Childcare	0	
Faculty offices	15,600	26%
Administrative	8,400	14%
Maintenance/Central Stores/Student Center	0	
Total	60,000	100%

OFM

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000019
Project Title: Global Public Health & Pharmacy Building

Description

Starting Fiscal Year: 2010
Project Class: Program
Agency Priority: 19

Project Summary

In 2009-11 the University of Washington is requesting state funding of $8,000,000 for the pre-design study and design phase of the new Global Public Health and Pharmacy Building. Existing instruction and support facilities for Public Health and Pharmacy are at full capacity, and with the rapidly emerging field of Global Public Health, the University of Washington is requesting state support for the pre-design & design costs of a new building on the Health Sciences campus. The building, of eight floors, will provide at least six to ten additional general instruction classrooms (dividable and adaptive to changing needs), a 200-seat dividable lecture hall, a distance learning center, Pharmacy research labs, faculty offices and research spaces, student advising, student study lounge, interviewing spaces, program administrative support, and specialized training spaces needed by the Schools of Pharmacy and Public Health. This building will establish a much-needed campus home for the synergy and collaboration that distinguish the fields of public health and pharmacy in a global environment.

Project Description

In 2009-11 the University of Washington is requesting state funding of $8 million for the pre-design study and design phase of the new Global Public Health and Pharmacy Building. Existing instruction and support facilities for Public Health and Pharmacy are at full capacity, and with the rapidly emerging field of Global Public Health, the new building, of eight floors, will provide at least six to ten additional general instruction classrooms (dividable and adaptive to changing needs), a 200-seat dividable lecture hall, a distance learning center, Pharmacy research labs, faculty offices and research spaces, student advising, student study lounge, interviewing spaces, program administrative support, and specialized training spaces. The space above the lecture hall and adjacent classrooms will address the School of Pharmacy's office and laboratory needs and provide the School of Public Health and Community Medicine (SPHCM) spaces to support undergraduate and graduate teaching, research training, and needed specialized support spaces. By providing additional shared instruction spaces, this facility will help the majority of the South Campus Health Sciences schools meet enrollment growth goals.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

New Facilities/Additions (Major Projects)

Growth Management impacts

See Growth Management Act Questionaire.

New Facility: Yes

How does this fit in master plan

Yes, see GMA questionaire and UW Master Plan

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	**Account Title**	**Estimated Total**	**Prior Biennium**	**Current Biennium**	**Reapprops**	**New Approps**
057-1	State Bldg Constr-State	80,000,000				8,000,000
	Total	**80,000,000**	**0**	**0**	**0**	**8,000,000**

OFM

360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000019**
Project Title: **Global Public Health & Pharmacy Building**

Funding

			Future Fiscal Periods		
		2011-13	**2013-15**	**2015-17**	**2017-19**
057-1	State Bldg Constr-State	72,000,000			
	Total	**72,000,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	06/01/2004	12/01/2009
Design	4/1/2010	7/1/2011
Construction	7/1/2011	7/1/2013

	Total
Gross Square Feet:	83,500
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	535
Construction Type:	Other Schedule A Projects
Is this a remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.32%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		435,461	0.5%
Construction Documents		2,132,146	2.7%
Extra Services		2,408,922	3.0%
Other Services		1,621,324	2.0%
Design Services Contingency		885,690	1.1%
Consultant Services Total		**7,483,543**	**9.4%**
Maximum Allowable Construction Cost(MACC)	**44,645,486**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		44,645,486	55.8%
GCCM Risk Contingency		1,283,849	1.6%
GCCM or Design Build Costs		6,826,600	8.5%
Construction Contingencies		6,696,823	8.4%
Non Taxable Items		0	0.0%
Sales Tax		5,350,748	6.7%

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000019
Project Title: Global Public Health & Pharmacy Building

Cost Summary

	Escalated Cost	% of Project
Construction Contracts Total	**64,803,506**	**81.0%**
Equipment		
Equipment	3,391,158	4.2%
Non Taxable Items	0	0.0%
Sales Tax	305,204	0.4%
Equipment Total	**3,696,362**	**4.6%**
Art Work Total	**223,227**	**0.3%**
Other Costs Total	**1,025,215**	**1.3%**
Project Management Total	**2,768,147**	**3.5%**
Grand Total Escalated Costs	**80,000,000**	
Rounded Grand Total Escalated Costs	**80,000,000**	

Operating Impacts

No Operating Impact

Narrative

Contracted services and work through capital budget

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	31	**Report Number:**	CBS003
Cost Estimate Title:	Public Health/Global Health/Pharmacy Building	**Date Run:**	8/13/2008 8:57AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	30000019		
Project Title:	Global Public Health & Pharmacy Building		
Project Phase Title:			

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	83,500
Usable Sq. Ft.:	0
Space Efficiency:	0%
MACC Cost per Sq. Ft.:	466
Escalated MACC Cost per Sq. Ft.:	535
Remodel?	No
Construction Type:	Other Schedule A Projects
A/E Fee Class:	A
A/E Fee Percentage:	7.32%

Schedule	Start Date	End Date
Predesign:	06-2004	12-2009
Design:	04-2010	07-2011
Construction:	07-2011	07-2013
Duration of Construction (Months):	24	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		435,461	
Construction Documents		2,132,146	
Extra Services		2,408,922	
Other Services		1,621,324	
Design Services Contingency		885,690	
Consultant Services Total			**7,483,543**
Site work		0	
Related Project Costs		0	
Facility Construction		44,645,486	
Construction Contingencies		6,696,823	
Non Taxable Items		0	
Sales Tax		5,350,748	
Construction Contracts Total			**64,803,506**
Maximum Allowable Construction Cost(MACC)	**44,645,486**		
Equipment		3,391,158	
Non Taxable Items		0	
Sales Tax		305,204	
Equipment Total			**3,696,362**
Art Work Total			**223,227**
Other Costs Total			**1,025,215**
Project Management Total			**2,768,147**
Grand Total Escalated Costs			**80,000,000**
Rounded Grand Total Escalated Costs			**80,000,000**

Additional Details

Alternative Public Works Project: Yes

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Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number:	31	**Report Number:**	CBS003
Cost Estimate Title:	Public Health/Global Health/Pharmacy Building	**Date Run:**	8/13/2008 8:57AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	30000019		
Project Title:	Global Public Health & Pharmacy Building		
Project Phase Title:			

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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360 - University of Washington
Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number:	31	**Analysis Date:**	July 31, 2008
Cost Estimate Title:	Public Health/Global Health/Pharmacy Building		

Detail Title:	Public Health/Global Health/ Pharmacy Building
Project Number:	30000019
Project Title:	Global Public Health & Pharmacy Building
Project Phase Title:	
Location:	Seattle

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	83,500
Usable Sq. Ft.:	
Rentable Sq. Ft.:	
Space Efficiency:	
Escalated MACC Cost per Sq. Ft.:	535
Escalated Cost per S. F. Explanation	
Construction Type:	Other Schedule A Projects
Remodel?	No
A/E Fee Class:	A
A/E Fee Percentage:	7.32%
Contingency Rate:	10.00%
Contingency Explanation	
Management Reserve:	5.00%
Projected Life of Asset (Years):	
Location Used for Tax Rate:	Seattle
Tax Rate:	9.00%
Art Requirement Applies:	Yes
Project Administration by:	AGY
Higher Education Institution?:	Yes
Alternative Public Works?:	Yes

Project Schedule

	Start Date	End Date
Predesign:	06-2004	12-2009
Design:	04-2010	07-2011
Construction:	07-2011	07-2013
Duration of Construction (Months):	24	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC:	$ 38,903,351
MACC (Escalated):	$ 44,645,486
Current Project Total:	$ 70,385,247
Rounded Current Project Total:	$ 70,385,000
Escalated Project Total:	$ 80,000,000
Rounded Escalated Project Total:	$ 80,000,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	300,000			
Environment Analysis	60,000			
Site Programming	50,000			
SubTotal: Pre-Schematic Design Services		**410,000**	1.0621	**435,461**
Construction Documents				
A/E Basic Design Services	1,964,930			
SubTotal: Construction Documents		**1,964,930**	1.0851	**2,132,146**
Extra Services				
Civil Design (Above Basic Services)	70,000			
Geotechnical Investigation	200,000			
Commissioning (Systems Check)	150,000			
Site Survey	35,000			
Testing	250,000			
Leadership Energy & Environment Design List(LEED)	180,000			
Voice/Data Consultant	25,000			
Landscape Consultant	150,000			
Acoustical Consultant	50,000			
Haz Mat Consultant	30,000			
Elevator Consultant	25,000			
Communications Consultant	30,000			
Graphics	20,000			
Interior Design	250,000			
Specialty Consultants	200,000			
Phasing/Early Bid Packages	30,000			
Quality Control Consultant	25,000			
Electronic AudioVisual	50,000			
Reimbursables/Doc Repro	250,000			
Other	150,000			
Lighting Design and Calculations	20,000			
Door Hardware Consultant	5,000			
Transportations Coordination	25,000			
SubTotal: Extra Services		**2,220,000**	1.0851	**2,408,922**
Other Services				
Bid/Construction/Closeout	882,795			
HVAC Balancing	80,000			
Construction Support	450,000			
SubTotal: Other Services		**1,412,795**	1.1476	**1,621,324**
Design Services Contingency				
Design Services Contingency	600,773			
Change Order Design Allowance	171,003			
SubTotal: Design Services Contingency		**771,776**	1.1476	**885,690**
Total: Consultant Services		**6,779,501**	1.1038	**7,483,543**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	34,772,000			
Additional Escalation	4,131,351			
SubTotal: Facility Construction		**38,903,351**	1.1476	**44,645,486**
Maximum Allowable Construction Cost (MACC)		**38,903,351**	1.1500	**44,645,486**
GCCM Risk Contingency				
GCCM Risk Contingency	1,118,725			
SubTotal: GCCM Risk Contingency		**1,118,725**	1.1476	**1,283,849**

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSTRUCTION CONTRACTS				
GCCM or Design Build Costs				
GCCM Fee	1,979,104			
Bid General Conditions	2,177,014			
GCCM Preconstruction Services	450,000			
Construction Support Services	1,342,470			
SubTotal: GCCM or Design Build Costs		**5,948,588**	1.1476	**6,826,600**
Construction Contingencies				
Management Reserve	1,945,168			
Allowance for Change Orders	3,890,335			
SubTotal: Construction Contingencies		**5,835,503**	1.1476	**6,696,823**
Sales Tax		**4,662,555**	1.1476	**5,350,748**
Total: Construction Contracts		**56,468,722**	1.1476	**64,803,506**
EQUIPMENT				
E10 - Equipment	450,000			
E20 - Furnishings	2,505,000			
SubTotal:		**2,955,000**	1.1476	**3,391,158**
Sales Tax		**265,950**	1.1476	**305,204**
Total: Equipment		**3,220,950**	1.1476	**3,696,362**
ART WORK				
Total: Art Work		**223,227**	1.0000	**223,227**
OTHER COSTS				
Permit, Insurance, Connectivity	924,700			
Total: Other Costs		**924,700**	1.1087	**1,025,215**
PROJECT MANAGEMENT				
Agency Project Management	2,708,147			
Preactive PM Fees	60,000			
Total: Project Management		**2,768,147**	1.0000	**2,768,147**

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360 - University of Washington

Cost Estimate Summary and Detail

2009-11 Biennium

*

Cost Estimate Number: 31

Cost Estimate Title: Public Health/Global Health/Pharmacy Building

Report Number: CBS003

Date Run: 8/13/2008 8:57AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	30000019	30000019
Cost Estimate Number	31	31
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

TACOMA LAND ACQUISITION/REMEDIATION

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
UW Tacoma Land Acquisition/Soils Remediation		GROWTH	20022029
County	City		Legislative District
Pierce	Tacoma		027
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20092003
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		

1. Project Schedule:

	Start Date	Complete Date
Predesign	N/A	N/A
Design	N/A	N/A
Bid	N/A	N/A
Construction/Occupancy/Acquisition	2009-11	2009-11

2. Problem Statement (short description of the project – the needs and the benefits)

The University of Washington Tacoma is responsible for providing increased access to higher education for students in the South Puget Sound. A significant factor in this growth was the admission of freshmen in Fall, 2006. This legislative decision challenged the University of Washington Tacoma to move from serving entirely a nontraditional, upper division/transfer and graduate student campus, to include traditional age, recent high school graduates. This required UW Tacoma to modify curriculum, expand student services, and modify classrooms and campus infrastructure to fit a change in mission.

In order to meet its access mission, the University of Washington Tacoma is expected to grow significantly in the next ten years. Campus enrollment growth from autumn 2008 to 2017 is expected to increase from 2,425 to 5,455 FTE. This is a 125% increase in enrollment using an 8 – 10% annual growth rate. At full build-out, the campus is planned to accommodate 10,000 student FTE.

Land Acquisition

The University of Washington's request for funding to continue to acquire properties within the 46-acre footprint will provide the opportunity to continue the critical acquisition of land for the campus. Currently, the University owns approximately 60% of the entire 46-acre footprint (Appendix 1). Approximately 6 acres of individual parcels remain to be acquired with an estimated cost of approximately $20 million. The University has identified several parcels that will need to be acquired in the next biennium that total $5 million. Funding is needed to acquire parcels when they are available for sale and to continue development of the campus to accommodate enrollment growth.

The acquisition of critically needed parcels in the next biennium will allow for the expansion of student life facilities – including housing – within the next 3 to 5 years. This includes the need to accommodate lower- and upper-division housing and recreational and support spaces needed to serve a public urban university of this size. The housing facilities are expected to accommodate approximately 12% of the student population.

Remediation

The University of Washington requests funding to conduct a remediation of groundwater and soil contamination on the campus (See map of groundwater contamination – Appendix 2). Two parcels, know as the Howe and Williams Oil Filter, have been identified by Ecology as two distinct sites that could be mitigated under an interim action cleanup. The preferred remedial plan is to implement institutional controls to protect the sites from unauthorized use, intrusion, and to implement site specific remedial systems.

The Howe Parcel (currently the site of the UW Tacoma Bookstore) contains petroleum hydrocarbons in soil and perchloroethylene (PCE) contamination in groundwater. The contamination extends from below the Bookstore, to underneath Pacific Avenue and the Federal Court House, and if not addressed represents a significant potential for further environmental harm.

The Williams Oil Filter Parcel (currently the site of the UW Tacoma Science Building) contains residual petroleum contamination in soils near the railroad tracks and below the underground sanitary sewer system. Approximately 400-600 cubic yards of petroleum contaminated soil is present and is expected to naturally attenuate over a 30 - year timeframe.

3. History of the project or facility

Land Acquisition

In 1989, the Legislature created five branch campuses across the state, including the Tacoma campus. The site selected for the University of Washington Tacoma campus is a 46-acre, approximately 1,400 square foot area in the historic Union Station warehouse district in downtown Tacoma. At the establishment of the campus site, the initial appropriation for property allowed for acquisition of only a portion of the parcels within the boundary. Over the last several biennia, funds have been allocated to acquire additional parcels within the boundary of the campus footprint.

Remediation

When the Tacoma campus began building its permanent campus in 1995, petroleum and solvent contaminants from previous activities in the area were discovered in soil and groundwater. The University initially worked voluntarily with the Washington Department of Ecology and the Environmental Protection Agency to assess and remediate the contamination. However, Ecology determined that the nature and extend of contamination were too complex to be managed independently. In 1997 the UW entered into an Agreed Order with the Washington State Department of Ecology (Ecology) to assess the extent of contamination of UW Tacoma properties. The University has completed environmental assessments of the parcels within the Agreed Order boundaries, and has submitted a list of preferred cleanup remedies to Ecology.

The total estimated cost for this clean-up is $1.9 million. In the 2008 supplemental session of the legislature, $1 million was allocated from state funds toward clean-up of the two parcels.

4. University programs addressed or encompassed by the project

The University of Washington Tacoma's accelerated growth will include the expansion of academic programs or new degrees in all program areas. The campus anticipates that approximately half of the FTE growth could likely be in high demand program areas. Additional space is needed to provide teaching, learning and support space to accommodate the expansion of academic programs or new programs. Acquiring parcels and/or buildings within the campus site is critical to providing space for future phases that will address:

- General lecture classrooms and seminar rooms;
- Specialized science facilities that can accommodate new and expanded science curriculum--these may include a variety of traditional and non-traditional labs and systems to support study in microbiology, biochemistry, and psychology along with chemistry lab classrooms, multiple purpose science classrooms and associated support areas;
- Art facilities to support new and expanded Art curriculum;
- Computer science facilities including student and research labs; and
- Clinical nursing facilities.

The inventory of current facilities cannot meet the projected space capacity requirements and cannot be renovated to support enrollment growth and program development. Continued acquisition of land will provide the space for future phases to include the construction of new facilities that will ensure the expansion of UW Tacoma programs to meet the needs of the residents of the State of Washington.

The acquisition of land will provide more flexibility in planning, locating and constructing future academic facilities. The acquisition of critically needed parcels in the next biennium will allow for the expansion of student life facilities – including housing – within the next 3 to 5 years.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

The acquisition of land/buildings will allow UW Tacoma to complete future development phases. UW Tacoma must continue to acquire parcels and buildings within the campus site to provide flexibility when planning future phases to accommodate continued enrollment growth. As the UW Tacoma campus continues to grow, additional facilities will address enrollment and faculty growth that will result in:

- **Increases in the number of bachelor's degrees awarded**
- **Increases in the number of high-demand fields**
- **Increases in number of advanced degrees awarded**
- **Promoting access for underserved regions and placebound adults**
- **Contributing to region's economic development & innovation**

UW Tacoma will experience significant enrollment growth with increasing demands on more facilities. In turn, more undergraduate and graduate students will gain degrees in all fields, but particularly in areas of critical state need, e.g. science. All of this will spur economic development for Tacoma well into the next decade.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan

The proposed project is consistent with the 2008 *UW Tacoma Campus Master Plan*. A copy of the current Master Plan can be downloaded from: http://www.tacoma.washington.edu/chancellor/masterplan/overview.html. Additional land will accommodate more buildings that will address the following master plan guiding principals:

- Access to an exceptional university education;
- An interdisciplinary approach to knowledge and discovery in the 21st century; and
- A strong and mutually supportive relationship between the campus and its surrounding communities.

and the following Master Plan goals:

- Enhance and Develop the Campus;
- Provide Access to an Exceptional University Education;
- Connect Knowledge Across Disciplines;
- Create Bonds with the Community; and
- Support Diversity.

(b) Campus Facilities Plan, and

This project will contribute significantly to the continued development of the campus and the facilities plan. Acquisition of land/buildings will provide greater flexibility in planning future phases.

(c) Strategic Plan.

The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for land acquisition funding will contribute to the growth of UW Tacoma which is consistent with several of the University of Washington core strategic goals:

- Attract a diverse and excellent student body and provide a rich learning experience.
    - This proposal supports the legislatively directed student growth goals by providing the property needed for expansion.
- Strengthen interdisciplinary research and scholarship to tackle "grand challenge" problems that will benefit society and stimulate economic development.
    - Land Acquisition is the next step in a process that will ultimately provide campus spaces for education, research, collaboration and interaction.
- Expand the reach of the UW from our community and region across the world to enhance global competitiveness of our students and the region.
    - Enhancing the local community and economy with facilities and educational services has been a priority since the inception of UW Tacoma. Land Acquisition is needed to expand access to the high quality education which is a cornerstone of preparing students to succeed in a global economy.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
    - Acquiring land/buildings and providing funding for soils remediation is key to meeting campus growth objectives with integrity, compliance and stewardship.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

UW Tacoma Land Acquisition/Remediation is the thirteenth priority request out of fifteen projects in the 2009-11 University of Washington's State Capital Budget Request, and is the fourth priority in the Growth category.

7. 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.

Acquiring land for UW Tacoma will enable the campus to eventually address the addition of future FTEs by providing land for new construction or buildings for renovation. This will help accommodate enrollment growth of 600 FTE for each phase. For example, Phase IV is projected to accommodate 600 FTE's.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields, as defined by the HECB, and the particular fields in which such growth is expected to occur.

The University of Washington Tacoma is poised to add additional high demand FTE in areas such as environmental engineering, nursing, pre-health sciences, information technology and science/math education, quantitative analysis and environmental science. Approximately fifty percent or 300 FTE are planned in high demand program areas.

8. Availability of Space:

a. Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

The University of Washington Tacoma exceeded the HECB utilization standards for classrooms for Autumn Quarter 2007. For classrooms, the use factor was 25 which is equivalent to an average of 41 hours of instruction each week. Based on the available data from the central student database time schedule, class laboratories did not meet the HECB use standard.

Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added so utilization should increase for classrooms and class laboratories.

b. 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 institution's plans for achieving that level of utilization.

(Note: Fall 2008 utilization should be estimated by taking actual Fall 2007 enrollment and increasing it by the percentage by which academic year 2008-09 state-supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

Within the next ten years, the University of Washington Tacoma is projected to more than double its FTE enrollment. With an annual growth rate of approximately 8 - 10 % during the next ten years, the campus fully expects to meet the established HECB standards. The expected growth over the same period represents an increase of over 3,000 FTE.

The University of Washington Tacoma's accelerated growth will include the expansion of academic programs or new degrees in all program areas. For example, the sciences plan to expand in areas that require traditional laboratory space, e.g., microbiology, biochemistry and chemistry. With the addition of 600 FTE enrollment in Phase 4, the campus anticipates that approximately half of the FTE growth could likely be in high demand program areas. Currently, the campus lacks adequate facilities (classrooms and labs) to meet the projected enrollment increases. The acquisition of land will provide UW Tacoma greater flexibility in planning, locating and constructing facilities.

Attached is the University of Washington utilization report.

9. 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.

This will be determined once the parcel and structure is acquired. Any proposed facility will be consistent the FEPG standards.

b. Identify the

(a) Assignable square feet (ASF) in the proposed facility;

This is not applicable. Each acquisition is for land, and should there be a building on the parcel, the use is dependent on the condition, cost to remodel, funding to remodel and permitable use.

(b) Gross square feet (GSF): N/A for land acquisition and

(c) Net building efficiency (ASF divided GSF): N/A for land acquisition

10. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

This is not applicable to the land acquisitions. Each parcel is dependent on market conditions and availability of parcel(s).

Table below can be used to provide the requested information:

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Comparable X	N/A	N/A	N/A	N/A	N/A	N/A	N/A

11. Program-related Space Allocation:

Identify proposed use or uses of new building, including assignable square footages by use type. Table below can be used to provide the requested information:

Type of Space	Assignable Square Feet	Percentage of total
Instructional Space (Classroom, Lab, Library)	N/A	N/A
Student Advising/Counseling Services	N/A	N/A
Childcare	N/A	N/A
Faculty offices	N/A	N/A
Administrative	N/A	N/A
Maintenance/Central Stores/Student Center	N/A	N/A
Total	See notes below.	100%

Note:

This is not applicable in the acquisition of land. And when a building is included in the acquisition, the use and plan for the building depends on the facility’s condition, floor plans, footprint, location on campus and permissible use.

The full build-out of the master plan academic facilities estimates the need for 1,700,000 gross square feet on the 46 acre campus footprint. This will serve a student population of 10,000 FTE.

Appendix 1

UNIVERSITY OF WASHINGTON TACOMA

CAMPUS MASTER PLAN FOOTPRINT

7/2008

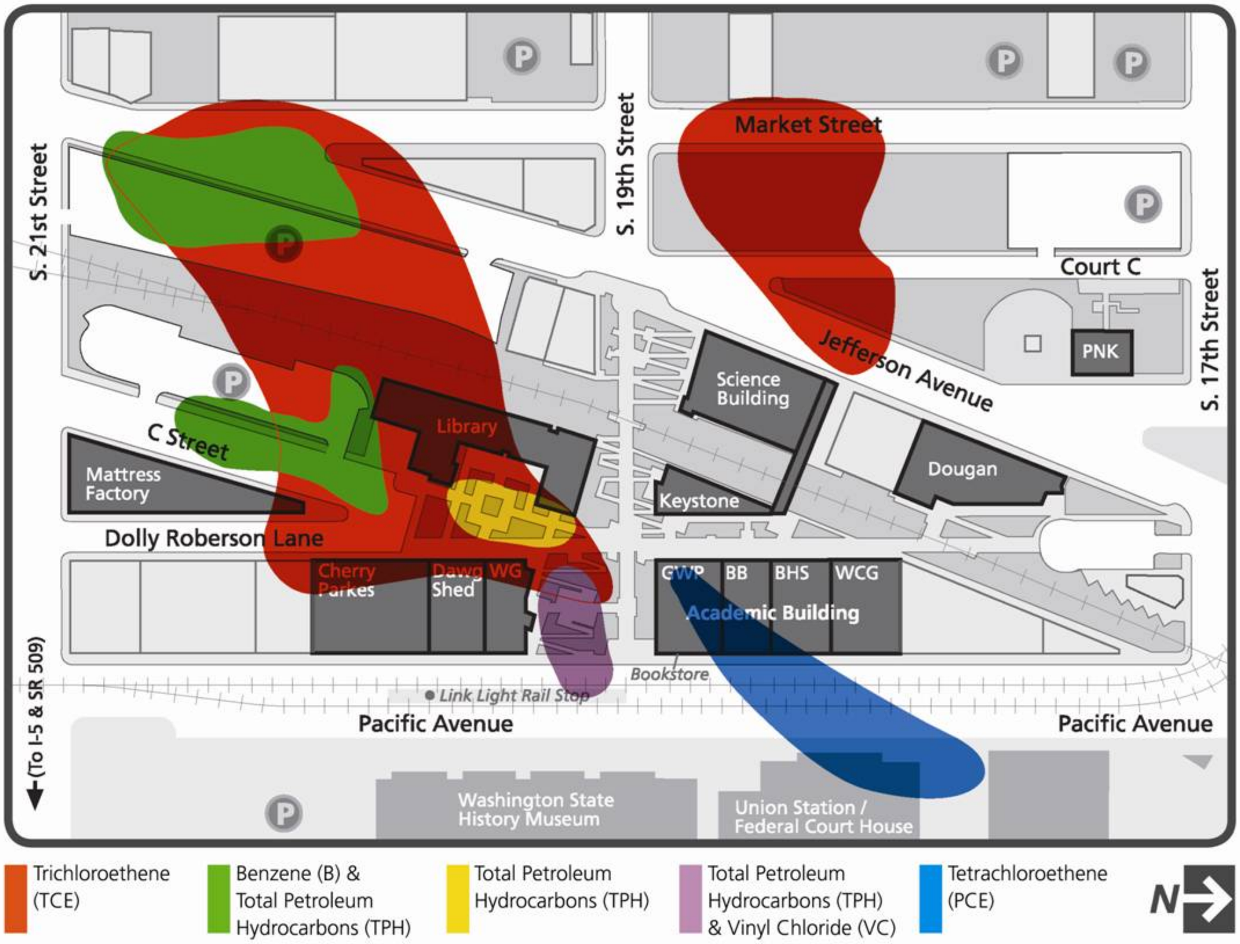
— Master Plan Boundary

🟪 Property Owned by University

Appendix 2

University of Washington Tacoma

APPROXIMATE GROUNDWATER CONTAMINATION LIMITS



This map is based upon information reported in the ***Draft Feasibility Study (April 14, 2003)*** *and the* ***Draft Supplemental Remedial Investigation Work Plan (March 5, 2006).*** *Both these document are currently under review by Ecology.*

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20022029
Project Title: UW Tacoma Land Acquisition/ Soils Remediation

Description

Starting Fiscal Year: 2002
Project Class: Program
Agency Priority: 21

Project Summary

This is a re-appropriation and a request for 2009-11 state capital funding to acquire land/buildings and address soils remeditation requirements. Continued land acquisition and soils remediation is consistent with the UW Tacoma Master Plan. Land acquisitions wil be within the campus foot print as described in the UW Tacoma Master Plan. Continued acquisition will provide the campus with the land to further develop to meet the needs of growing enrollment. Remediation of hazardous materials in the soils of previously acquired parcels has moved forward through planning, estimating, and phased implementation. In addition to utilizing state funds for soils remediation, additional funding applications are currently under review. These funds will enable the University of Washington to implement and monitor the State of Ecology approved soils remediation plan at the Tacoma campus.

Project Description

This is a re-appropriation and a request for 2009-11 state capital funding to acquire land/buildings and address soils remeditation requirements. Continuing land acquisition and soils remediation is consistent with the UW Tacoma Master Plan and is required for the future development of the Tacoma campus. The 2009-11 request for state funds will allow for the continuation of land acquisition and the implementation of soils remediation plans for properties at UW Tacoma.
The land acquisitions will be within the campus foot print as described in the UW Tacoma Master Plan. Continued acquisition will provide the campus with land to further develop to meet the needs of growing enrollment. Remediation of hazardous materials in the soils of previously acquired parcels has moved forward through planning, estimating, and phased implementation. In addition to utilizing state funds for soils remediation, additional funding applications are currently under review. These funds will enable the University of Washington to implement and monitor the State of Ecology approved soils remediation plan at the Tacoma campus.

Location

City: Tacoma **County:** Pierce **Legislative District:** 027

Project Type

Acquisition - Land

Growth Management impacts

See UW Tacoma Master Plan

New Facility: No

Funding

			Expenditures		2009-11 Fiscal Period	
Acct Code	Account Title	Estimated Total	Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	25,000,000				5,000,000
253-1	Education Constr-State					
	Total	25,000,000	0	0	0	5,000,000

Future Fiscal Periods

2011-13	2013-15	2015-17	2017-19

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20022029
Project Title: UW Tacoma Land Acquisition/ Soils Remediation

Funding

		Future Fiscal Periods			
		2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State	5,000,000	5,000,000	5,000,000	5,000,000
253-1	Education Constr-State				
	Total	**5,000,000**	**5,000,000**	**5,000,000**	**5,000,000**

Schedule and Statistics

	Start Date	End Date
Predesign	01/01/2003	01/01/2004
Design	7/1/2009	8/1/2009
Construction	9/1/2009	6/1/2011

	Total
Gross Square Feet:	1
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	643,400
Construction Type:	Other Schedule B Projects
Is this a remodel?	No
A/E Fee Class:	B
A/E Fee Percentage:	10.55%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**4,000,000**	**80.0%**
Consultant Services			
Pre-Schematic Design Services		0	0.0%
Construction Documents		46,629	0.9%
Extra Services		0	0.0%
Other Services		21,683	0.4%
Design Services Contingency		8,394	0.2%
Consultant Services Total		**76,706**	**1.5%**
Maximum Allowable Construction Cost(MACC)	**643,400**		
Site work		0	0.0%
Related Project Costs		643,400	12.9%
Facility Construction		0	0.0%
GCCM Risk Contingency		0	0.0%
GCCM or Design Build Costs		0	0.0%
Construction Contingencies		112,708	2.3%

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20022029**
Project Title: **UW Tacoma Land Acquisition/ Soils Remediation**

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Non Taxable Items	0	0.0%
Sales Tax	66,537	1.3%
Construction Contracts Total	**822,645**	**16.5%**
Equipment		
Equipment	0	0.0%
Non Taxable Items	0	0.0%
Sales Tax	0	0.0%
Equipment Total	**0**	**0.0%**
Art Work Total	**0**	**0.0%**
Other Costs Total	**0**	**0.0%**
Project Management Total	**100,649**	**2.0%**
Grand Total Escalated Costs	**5,000,000**	
Rounded Grand Total Escalated Costs	**5,000,000**	

Operating Impacts

No Operating Impact

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Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 22
Cost Estimate Title: UW Tacoma Land Acquistion/Remediation
Report Number: CBS003
Date Run: 8/13/2008 8:33AM

Version: 01 2009-11, Draft
Agency Preferred: Yes
Project Number: 20022029
Project Title: UW Tacoma Land Acquisition/ Soils Remediation
Project Phase Title:

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	1
Usable Sq. Ft.:	0
Space Efficiency:	0%
MACC Cost per Sq. Ft.:	618,000
Escalated MACC Cost per Sq. Ft.:	643,400
Remodel?	No
Construction Type:	Other Schedule B Projects
A/E Fee Class:	B
A/E Fee Percentage:	10.55%

Schedule

	Start Date	**End Date**
Predesign:	01-2003	01-2004
Design:	07-2009	08-2009
Construction:	09-2009	06-2011
Duration of Construction (Months):	21	

Cost Summary Escalated

Acquisition Costs Total			**4,000,000**
Pre-Schematic Design Services		0	
Construction Documents		46,629	
Extra Services		0	
Other Services		21,683	
Design Services Contingency		8,394	
Consultant Services Total			**76,706**
Site work		0	
Related Project Costs		643,400	
Facility Construction		0	
Construction Contingencies		112,708	
Non Taxable Items		0	
Sales Tax		66,537	
Construction Contracts Total			**822,645**
Maximum Allowable Construction Cost(MACC)	**643,400**		
Equipment		0	
Non Taxable Items		0	
Sales Tax		0	
Equipment Total			**0**
Art Work Total			**0**
Other Costs Total			**0**
Project Management Total			**100,649**
Grand Total Escalated Costs			**5,000,000**
Rounded Grand Total Escalated Costs			**5,000,000**

Additional Details

Alternative Public Works Project:	No

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Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	22	**Report Number:**	CBS003
Cost Estimate Title:	UW Tacoma Land Acquistion/Remediation	**Date Run:**	8/13/2008 8:33AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	20022029		
Project Title:	UW Tacoma Land Acquisition/ Soils Remediation		
Project Phase Title:			

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	07-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail

2009-11 Biennium

Cost Estimate Number: 22
Analysis Date: July 22, 2008
Cost Estimate Title: UW Tacoma Land Acquistion/Remediation

Detail Title: UW Tacoma Soils
Project Number: 20022029
Project Title: UW Tacoma Land Acquisition/ Soils Remediation
Project Phase Title:
Location: Tacoma

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.: 1
Usable Sq. Ft.:
Rentable Sq. Ft.:
Space Efficiency:
Escalated MACC Cost per Sq. Ft.: 643,400
Escalated Cost per S. F. Explanation

Construction Type: Other Schedule B Projects
Remodel? No
A/E Fee Class: B
A/E Fee Percentage: 10.55%
Contingency Rate: 12.00%
Contingency Explanation

Management Reserve: 5.00%
Projected Life of Asset (Years):
Location Used for Tax Rate: Tacoma
Tax Rate: 8.80%
Art Requirement Applies: No
Project Administration by: AGY
Higher Education Institution?: Yes
Alternative Public Works?: No

Project Schedule

	Start Date	End Date
Predesign:	01-2003	01-2004
Design:	07-2009	08-2009
Construction:	09-2009	06-2011
Duration of Construction (Months):	21	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	7-2008	

Project Cost Summary

MACC: $ 618,000
MACC (Escalated): $ 643,400
Current Project Total: $ 4,960,361
Rounded Current Project Total: $ 4,960,000
Escalated Project Total: $ 5,000,000
Rounded Escalated Project Total: $ 5,000,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
ACQUISITION COSTS				
Land Acquisition	4,000,000			
Total: Acquisition Costs		**4,000,000**	1.0000	**4,000,000**
CONSULTANT SERVICES				
Construction Documents				
A/E Basic Design Services	44,987			
SubTotal: Construction Documents		**44,987**	1.0365	**46,629**
Other Services				
Bid/Construction/Closeout	20,212			
SubTotal: Other Services		**20,212**	1.0728	**21,683**
Design Services Contingency				
Design Services Contingency	7,824			
SubTotal: Design Services Contingency		**7,824**	1.0728	**8,394**
Total: Consultant Services		**73,023**	1.0504	**76,706**
CONSTRUCTION CONTRACTS				
Related Project Costs				
Wetland Mitigation	618,000			
SubTotal: Related Project Costs		**618,000**	1.0411	**643,400**
Maximum Allowable Construction Cost (MACC)		**618,000**	1.0400	**643,400**
Construction Contingencies				
Management Reserve	30,900			
Allowance for Change Orders	74,160			
SubTotal: Construction Contingencies		**105,060**	1.0728	**112,708**
Sales Tax		**63,629**	1.0457	**66,537**
Total: Construction Contracts		**786,689**	1.0457	**822,645**
PROJECT MANAGEMENT				
Agency Project Management	362,104			
Deduct for PM Fees on Acquisition	(261,455)			
Total: Project Management		**100,649**	1.0000	**100,649**

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Cost Estimate Summary and Detail
2009-11 Biennium

*

Cost Estimate Number: 22
Cost Estimate Title: UW Tacoma Land Acquistion/Remediation

Report Number: CBS003
Date Run: 8/13/2008 8:33AM

Parameter	Entered As	Interpreted As
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	20022029	20022029
Cost Estimate Number	22	22
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

UW TECHNOLOGY – DATA NETWORK

AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		Category of Project	Project Number
UW Computing and Communications Infrastructure		INFRASTRUCTURE	20082004
County	City		Legislative District
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			Previous Project Number
2007-09			20082004
Prepared By:	Phone Number		Analysis Date:
Colleen Pike	206-543-6277		July 11,2008

1. Project Schedule: See explanation below

	Start Date	Complete Date
Predesign	Multiple dates	Multiple dates
Design	Multiple dates	Multiple dates
Bid	Multiple dates	Multiple dates
Construction/Occupancy	Multiple dates	Multiple dates

In the last several biennia the University of Washington has undertaken approximately 350 communications infrastructure projects of varying amounts using available state funds. In a typical biennium these projects generally fall into three levels of work:

1. Projects, such as cabling upgrades, which do not involve pathway modifications and can be undertaken by UW Technology installation staff or a subcontracted communications installer. Minimal-to-no-design is required.
2. Projects that require some modifications to pathways and/or communications, requiring assistance from in-house design services, but managed by UW Technology staff.
3. Projects that require major modifications to pathways and communications spaces, requiring assistance from outside consultants and in-house project management services from the Capital Projects Office.

While there is a project list developed each biennium for funding in the subsequent biennium (See request for 2009-11 in **Exhibit 1**), the final project list is not determined until the exact amount of communications infrastructure funds available is known. UW Technology attempts to tackle one, possibly two, major building overhauls each biennium; however, if funding allocations are insufficient, these projects are postponed until adequate funding becomes available and the available funds applied to more smaller-sized projects. The nature of communications infrastructure projects is such that this flexible approach is successful.

UW Technology prefers to defer most design work until the actual biennium when the funding becomes available. Exceptions to this practice are the Level 3 projects described above, which generally require two biennia to complete. See **Exhibit 2** for an example of detailed project information, including schedules, for Smith Hall, one of the UW's Level 3 projects. About half of the communications upgrades in Smith Hall are completed and funding for the rest is included in this request. Project packets for Winkenwerder Hall, Art Building, and Padelford Hall are available upon request.

2. Problem Statement (short description of the project – the needs and the benefits)

The minimum service level standard that is necessary in campus buildings to support high bandwidth performance is 100 megabits SWITCHED (fully dedicated on or off). One gigabit is the desired service level standard that will accommodate growth. In many cases across the University, communications infrastructure in buildings still only supports 10 megabits SHARED (accessible to various services and not fully assigned to a single bandwidth) , which severely restricts current computing capacity, let alone allows for limited growth.

This project continues a program, begun in the 1997-99 biennium, of planned upgrades to the UW's computing and communications infrastructure in order to support the bandwidth described above. The 2009-11 Request includes the following components:

- Installation (or upgrade to existing) single-mode fiber to a minimum of (6) six campus routing centers;
- Inter-building copper cables for a minimum of (4) four campus buildings;
- Environmental upgrades to a minimum of (4) four main building distribution rooms (MDFs);
- Installation of single-mode fiber riser in a minimum of (11) eleven campus buildings;
- Minor to moderate improvements to one or more infrastructure components in a minimum of (16) sixteen campus buildings; and
- Moderate to major improvements to one or more infrastructure components in (2) two campus buildings.

The University's computing infrastructure plays a critical role in the support of the University's mission. Students, professors, and researchers are accessing, exchanging, compiling, and storing ever expanding volumes of their work on computer networks. Computing at major teaching and research institutions like the UW has evolved from basic forms of communication to the assembly, transfer, and storage of large data sets, including high-bandwidth-consuming scientific images. Overall network traffic since 1993 has increased at a slightly higher than exponential rate. Indeed, in just the last 8 years it has grown from just under 1 million bytes per day to almost 60 trillion. To support this requirement it is necessary to continually upgrade the overall campus network and the infrastructure in the University's 220 buildings.

3. History of the project or facility

Beginning with the 1997-99 biennium, the UW began requesting state funds to help enhance its computing and communications infrastructure. In the 2001-03 biennium, the UW submitted a three-biennium capital plan to fund the necessary requirements. This plan called for $20 million in capital funds from the state legislature in each biennium between 2001-03 and 2005-07. Below is a history of actual state funding amounts per biennium over the last 5 biennia for the UW's computing and communications infrastructure program (note project title change over time):

- 1997-99: $3.0 million for Building Communications
- 2001-03: $2.5 million for Wire Plant Upgrade
- 2003-05: $5.0 million for Building Communications, boosted by an additional $2.0 million in the 2004 supplemental session
- 2005-07: no funds allocated
- 2007-09: $5.0 million (part of Computing & Communications Upgrades and Data Center)

4. University programs addressed or encompassed by the project

All University programs are addressed by these infrastructure projects. The important work of the University—by its students, faculty, researchers, and staff—is enabled by the operational performance and reliability of its computing and communications network. Academic, administrative, and research computing, the Libraries and Medical Centers, and the statewide K-20 network all rely on a robust and reliable UW computing and communications infrastructure.

5. Significant Health, Safety, and Code Issues:

a. Identify whether the project is needed to bring the facility within current seismic, life safety, ADA, utilities, or transportation code requirements.

Communications infrastructure projects must comply with applicable UW Facility Design Information guidelines, a set of documents and drawings that constitute the design standards for all communications infrastructure work in UW buildings. Designers and consultants working on projects involving UW facilities are required to use these documents and drawings in preparing project specifications. **Exhibit 3** contains an overview of design requirements and samples of typical design elements. As noted by the Table of Contents, these guidelines address nearly all voice, data, and multimedia requirements for projects that will connect to the University-wide network. Projects involving these requirements are coordinated by UW Technology's Infrastructure Planning & Design group.

b. Clearly identify the applicable standard or code, and describe how the project will improve consistency with it. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

In addition to the above Facility Design Information requirement, the University of Washington complies with all of the latest revisions to the following local and national codes for its communications infrastructure projects, including:

City of Seattle Building Code

City of Seattle Electrical Code (SEC, based on the Uniform Building Code (UBC))

National Building Code (NEC)

NFPA 75 (Protection of Electronic Computer and Data Processing Equipment)

NFPA 78 (Lightning Protection Code)

NFPA 101 (Life Safety Code)

FCC Part 68 (Connection of Terminal Equipment to Telephone Network)

In addition, all communications infrastructure work is performed in accordance with the latest revisions of all ANSI/TIA/EIA, and BICSI standards, as well as:

RS-455 (Standard Test Procedures for Fiber Optic Cables)

NCTA (Recommended Practices for CATV Measurement)

6. Evidence of Failure/Ability to Defer Project:

a. Identify prior facility failures, high cost maintenance, and/or system unreliability. *(Provide selected supporting documentation in appendices, and reference them in the body of the proposal.)*

Exhibit 4 is a compendium of photographs that represent typical communications infrastructure problems that exist in UW campus buildings. In addition to the basic deficiency of outdated equipment and cabling, these problems create such conditions as:

- Code violations—e.g. shared space with other services such as electrical (in some cases high voltage) and custodial, lack of proper pathways
- Inadequate cooling for equipment
- Presence of asbestos-containing materials
- Inadequate space for equipment

As mentioned in the Problem Statement, the minimum service level standard that is necessary in campus buildings to support high bandwidth performance is 100 megabits SWITCHED. One gigabit is the desired service level standard that will accommodate growth. In many cases across the University, communications infrastructure in buildings still only supports 10 megabits SHARED service, which severely restricts current computing capacity, let alone allows for growth. Any building not up to standard is subject to service degradation and unreliability for customers and represents a high maintenance challenge for UW Technology personnel to support. The building conditions listed above and illustrated in the photos are examples of the kinds of remedial work required to support the University's minimum communications standard.

The UW Technology – Data Network project is the fourteenth priority out of fifteen projects in the University of Washington's 2009-2011 State Capital Budget Request, and is our second priority in the Infrastructure category.

7. Impact on Institutional Operations without the Infrastructure Project:

a. Describe how and the extent to which there would be an impact on existing operations or potential impact on future, already funded or planned construction projects should this infrastructure project not occur.

The UW Technology department strives to serve the campus by providing the best network performance and highest reliability possible in order for the University's students, faculty, researchers, and staff to accomplish their work. It relies on state infrastructure funds for upgrade of the campus network in order to support that service. Failure to fund will mean that segments of the campus will remain underserved and network performance for others will diminish or fail. Unreliable service and/or system failures would greatly jeopardize serving student, faculty, staff, administration and research needs.

8. Reasonable Estimate:

a. Provide as much detailed cost estimate information as possible, including documentation of professional assessment of costs (may contain opinions of external experts or engineering staff from the institution).

Refer back to Exhibit 1, which summarizes the UW's 2009-11 request by major category of work and buildings affected. Cost estimates were derived by UW Technology's Infrastructure Planning & Design group, which is responsible for project development and execution in conjunction with the University's

Capital Projects and Facilities Services offices. These cost estimates are based on multiple biennia of actual work. **Exhibit 5** contains detailed cost information on projects completed over the last three biennia or currently being undertaken, based on cost estimates derived as described earlier in the Problem Statement for the three levels of communications infrastructure projects. Exhibit 5 contains the following three parts:

- 5.a.: for the 2003-05 biennium a Work Plan snapshot by project, detailed tracking sheet of cost information by project, a summary of project charges by budget number and building, and a Power Point presentation describing work completed over the biennium
- 5. b.: for the 2005-07 biennium (all work done this biennium was with funds carried forward from 2003-05, since no new state funds were allocated for this purpose)—two tracking spreadsheets detailing costs for work completed with remaining 2003-05 funds.
- 5. c.: for the 2007-09 biennium, a summary of the overall capital request and two tracking spreadsheets detailing costs for work completed thus far.

9. Engineering Study:

a. Identify whether there is a completed comprehensive engineering study, site survey and recommendations, or opinion letter. *(Provide referenced supporting documentation in appendices.)*

Refer back to Exhibit 2 for detailed project information for the UW's currently on-going and recently-completed Level 3 projects—Smith Hall. Detailed information on other projects (Winkenwerder Hall, Art Building, and Padelford Hall) is available on request.

10. Supports Facilities Plan:

Describe the proposed project's relationship and relative importance to the institutional Infrastructure Plan, Facilities Master Plan, and/or campus Master Plan.

Since 1993 the UW Technology organization has maintained a comprehensive, continually updated assessment of its building communication infrastructure components entitled "Evaluation of Communications Infrastructure Service" (see **Exhibit 6**). This list contains essential building data and rates each building communications infrastructure component for adequacy, and assigns an adequacy score to the building. This spreadsheet is used by UW Technology to identify and prioritize projects for each biennium's work plan.

Before proceeding with the project work plan each biennium, UW Technology consults with the University's major schools and colleges to ensure that their feedback is taken into account, i.e. that UW Technology's identified priorities accurately reflect the needs of the individual school or college. For example, **Exhibit 7** is a status report of projects for the College of Arts & Sciences, based on a jointly developed list of priorities.

11. Resource Efficiency and Sustainability:

a. Document project benefits associated with low impact development, improvements in energy and resource conservation, and use of alternative energy sources.

Not Applicable

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360 - University of Washington
Capital Project Request
2009-11 Biennium

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Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 20082004
Project Title: Computing and Communications Upgrades and Data Center

Description

Starting Fiscal Year: 2004
Project Class: Program
Agency Priority: 22

Project Summary

This is a re-appropriation request and a request for 2009-2011 state funding of $5 million for continued upgrading of computing and communictaions infrastructure. In 2007-09 the state appropriated funds for the construction of a new primary University of Washington Data Center facility and for related Computing and Communications infrastructure and connectivity. The continual growth in networked digital information results in an ongoing need for more Data Center space and upgrades of the infrastructure. Students and their professors are accessing, exchanging, compiling, and storing more of their academic work on computer networks. The University's computing infrastructure plays a critical role in the support of the University's mission, now and into the future. A key element of that infrastructure is secure and reliable space to house the rapidly growing number of servers. Since the University's current centralized Data Center is already full, additional capacity is urgently needed. Timely action is especially important because the shortage of Data Center space is already affecting the University ability to support academic, administrative and research needs.

Project Description

This is a re-appropriation request and a request for state funding of $5 million for continued upgrading of computing and communicatrions infrastructure. The University's computing infrastructure plays a critical role in the support of the University's mission, now and into the future. A key element of that infrastructure is secure and reliable space to house the rapidly growing number of servers. Since the University's current centralized Data Center is already full, additional capacity is urgently needed. Timely action is especially important because the shortage of Data Center space is already affecting the University ability to support academic, administrative and research needs. Because of their need for continual uninterrupted operations, space for a portion of the University's centrally supported systems, the Medical Center, and select co-location users will designed to tier 3 levels as defined by the Telecommunications Infrastructure Standard for Data Centers (TIA-942). Generally, tier 3 data center facilities contain redundant and back-up systems to keep the data center operational despite loss of primary power sources or equipment failure. The remainder of the space, used primarily by central systems and research programs more tolerant of some service disruptions, will be to tier 1 standards.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Infrastructure (Major Projects)

Growth Management impacts

N/A

New Facility: No

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	67,527,081		15,527,081	20,000,000	5,000,000
	Total	**67,527,081**	**0**	**15,527,081**	**20,000,000**	**5,000,000**

360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **20082004**
Project Title: **Computing and Communications Upgrades and Data Center**

Funding

		Future Fiscal Periods			
		2011-13	**2013-15**	**2015-17**	**2017-19**
057-1	State Bldg Constr-State	5,000,000	5,000,000	7,000,000	10,000,000
	Total	**5,000,000**	**5,000,000**	**7,000,000**	**10,000,000**

Operating Impacts

No Operating Impact

[redacted]

Exhibit #1

Building Communications Infrastructure Request 2009-11

July, 2008

Project Name	Description	Buildings		Estimated Cost
Single Mode Fiber to fiber routing centers.	Install or upgrade fiber to routing centers			$250,000
		Wells Fargo 4545 building	ATG	
		Hlth. Sci. K wing	Henderson	
		Academic Com. Center (ACC)	Various	
		UWMC EC030		
Inter-building Copper Cables.	For buildings and any required facilities upgrades.			$200,000
		Haggett	McCarty	
		McMahon	Various	
		Hansee		
Communication room environmental upgrades	Several of our Main Distribution Rooms(MDF's) are inadequate in regards to A/C, power, security and other environmental aspects. Many smaller IDF's require reworking and modification to better utilize space constraints.			$1,000,000
		Electrical Engr. Bldg.	Mary Gates Hall	
		Gerberding Hall	Various	
		PowerPlant		
Single Mode Fiber Riser upgrades	For installing single-mode fiber risers in all campus buildings			$500,000
		MacKenzie Hall	Raitt Hall	
		Engineering Library	PowerPlant	
		Wilson Ceramic lab	Graves	
		Bagley Hall	Graves Annex	
		HS G, H, I		

Project Name	Description	Buildings		Estimated Cost
Building Infrastructure and Cabling requiring minor to **moderate** work.	Buildings falling into this category require minor to moderate infrastructure improvements.			$3,000,000
		Ocean Teaching building		
		University Facilities bldg.	Staff Human Resources Str.	
		Loew Hall	Gerberding Hall	
		Bagley Hall	Social Work/Speech & Hrng.	
		Marine Sciences	Benson Hall	
		MacKenzie Hall	HS Jwing	
		AERB	HS Iwing	
		Fisheries Center	More Hall	
		Various	HS Fwing(new)	
Building Infrastructure and Cabling requiring moderate to **major** upgrades.	Buildings falling into this category require moderate to major infrastructure improvements for one or more of the different infrastructure components. Planning and design for these buildings dictate a building-wide approach.			$3,000,000
		Mechanical Engr. Bldg.	Gowen Hall	
TOTAL				$7,950,000

Exhibit #2

Capital Projects Office
Project Development

Detailed Pre-design Estimate

September 19, 2007

TO: Lyle Zimmerman, Manager, Infrastructure Planning and Design,
Computing & Communications
4625 Union Bay Pl NE
Box 354150

FROM: Garett Buckingham, Project Development Manager
CPO Estimating -- Box 352205

PROJECT NAME: **Smith Communications Upgrade**
PROJECT NUMBER: 202028

In response to your request for project estimate, staff of this office has prepared the attached schematic design estimate of $1,729,900.00 (See attached break down of costs).

07-09 Biennium Design and Completion

Base Scope of Work	$1,561,600.00
Fire Alarm Alternate	$ 168,300.00
Total Project Cost	$1,729,900.00

09-11 Biennium Design and Completion

Base Scope of Work	$1,649,200.00
Fire Alarm Alternate	$ 176,300.00
Total Project Cost	$1,825,500.00

General notes:

- These estimate costs, given the time frame and level of funding, are based on opinions of what will be required for the building systems as well as hazmat abatement. Architectural, mechanical, electrical and communications systems have been reviewed and predesign documents produced, but final designs have not been completed. Hazmat testing has not taken place. There could be significant variations in scope and therefore costs discovered during the design phase.
- The cost escalations built into this project are based on funding occurring on or before October 2007. The actual schedule for the design and construction will depend on the timing of funding and the work load of projects at that time. An anticipated design and construction duration for this project would be 16 months.
- Attached is a status report created by the communications consultant which indicates the steps completed in design as well as the additional steps required to complete Construction Documents. It is the recommendation of CPO that the following additional steps be completed prior to entering into a Design Contract for Construction Documents.
    - A brief schematic design analysis of a range of promising layout solutions to illustrate and document arrival at an optimal solution. This work has been completed by the design team but not documented. The design team deliverables might include:
    - "As-built" architectural reflected ceiling plans and/or annotated plan drawings compiled for all areas where new pathway is proposed. Plans should include wall assembly types, ceiling assemblies and heights, elevation and material changes, obstructions and configurations of other building systems that represent potential installation, operation or attachment conflicts. Concealed ceiling spaces should be investigated to determine feasibility of routing in these spaces.
    - A detailed pathway schematic design analysis should be included to document key constraints, test constructability, optimize cost efficiency and architectural compatibility of the design with the existing building finishes. Cable tray profiles would be a part of this deliverable.
    - The communications design drawings should be annotated to include the "logic" of new outlets vs. outlets re-used and document layout of existing pathway to be re-used and show pathway to be removed.

- Complete a limited scope hazardous materials survey so as to ensure the current design will not need to be revised based on constraints identified by the hazardous materials survey.
- Resolve the DRB's comments (requesting analysis of the quantity and depth of closets) to complete DRB review and approval of current design.

Scope of Work – Upgrade Communication infrastructure in building for current and future use

- See attached set of drawings, report, and specs.

Demolition work:

- Demo existing voice and data pathways and outlets throughout building.

New Construction:

- Construct four new IDF closet partitions.
- Install new door frames, doors, hardware and ventilation grilles.
- Install Treated Plywood in IDF and MDF closets as shown on drawings.
- Install new lights and power outlets in new IDF closets.
- Install power supply to new racks in MDF.
- Install new racks, communication equipment, cable tray and pathways, communication and data cable, voice and data outlets. C & C to reactivate new outlets.
- There is an allowance of $25,800 for Hazmat Abatement.
- The estimate is based on day time work and the accommodation of said work by building staff as needed.
- Furnishings and equipment are excluded.
- Moving and storage of furnishings are excluded.

Alternate: Relocate routing of Fire Alarm wiring.

- The budget for the fire alarm rerouting in main hallways is an additional $168,300.00. Should funding allow we will incorporate the alternate into the scope of the work.

Should you desire to move ahead with design and construction of this project please contact Garett Buckingham, 206 543-9629 or garettb@u.washington.edu.
cc: A. Engel, M. Miller, I. Turner, J. Templin

UNIVERSITY OF
WASHINGTON
CAPITAL PROJECTS OFFICE

9/21/2007

PREDESIGN DD PHASE COST ESTIMATE,
CONSTRUCTION COSTS

Smith Communications Upgrade

202028 Upgrade to Communication Infrastructure

DESCRIPTION OF WORK	QTY	UNIT	UNIT COST	Budget of Costs
Consultant Services				
Predesign Package	1	Amount		33,900.00
Basic Design	1	Amount		21,000.00
Extra/Added Services	1	Amount		90,600.00
Contingencies and C/O Allow	1	Amount		23,800.00
Total Consultant Sevices				169,300.00
CONSTRUCTION				
Construction Contracts				
General Conditions				
Project Startup and Cleaning	1	allow	30,300.00	30,300.00
General Conditions Total				30,300.00
Demolition				
Demolition	1	allow	1,200.00	1,200.00
Demolition Total				1,200.00
Thermal & Moisture Protection				
Firestopping & Caulking	1	Allow	1,000.00	1,000.00
Thermal & Moisture Protection Totals				1,000.00
Wood & Plastics				
Fire Treated Plywood in MDF and IDF Rooms	1	Allow	3,200.00	3,200.00
Architectural Shelving on 2nd floor for cbl trey	1	Allow	48,800.00	48,800.00
Wood & Plastics Totals				52,000.00
Doors & Windows				
Install new door frames and existing doors	1	Allow	20,100.00	20,100.00
Doors & Windows Totals				20,100.00
Finishes				
Walls	1	Allow	36,300.00	36,300.00
Ceiling	1	Allow	1,500.00	1,500.00
Finishes Totals				37,800.00
Mechanical				
Transfer Grilles at IDF Closets	1	Allow	2,100.00	2,100.00
Mechanical Totals				2,100.00
Electrical				
Communication and Electrical Core Drills	1	Allow	10,700.00	10,700.00
Power	1	Allow	34,300.00	34,300.00
Communications per AEI Estimate Attached	1	Allow	602,900.00	602,900.00
Electrical Totals				647,900.00
Estimating Contingency		10%		79,300.00
Escalation to mid point Construction				63,700.00
Total Project MACC				**935,400.00**
Total Project Costs Shown on Next Sheet				

DESCRIPTION OF WORK	QTY	UNIT	UNIT COST	Budget of Costs
Construction Related Costs				
Hazardous Materials Abatement Allowance	1	allow	25,700.00	25,900.00
Management Reserve				93,500.00
Allowance for Change Orders				93,500.00
Project Tax				102,200.00
Construction Related Costs Total				289,200.00
Total Construction Costs				**1,250,500.00**
Other Costs				
Inplant Services				10,300.00
Builders Risk				700.00
C&C				0.00
Bldg Permit				10,900.00
Other Costs Total				21,900.00
Project Management				119,900.00
TOTAL PROJECT COSTS				**1,561,600.00**

UNIVERSITY OF WASHINGTON
CAPITAL PROJECTS OFFICE

9/21/2007
PREDESIGN PHASE COST ESTIMATE,
Smith Communications Upgrade

202028 Upgrade to Communication Infrastructure -Alternate- Relocate Fire Alarm Pathways.

DESCRIPTION OF WORK	QTY	UNIT	UNIT COST	Budget of Costs
Consultant Services				
Extra/Added Services	1	Amount		12,700.00
Total Consultant Sevices				12,700.00
CONSTRUCTION				
Demolition				
Demolition of Existing Raceway	1	allow	9,900.00	9,900.00
Demolition Total				9,900.00
Hazardous Materials Abatement Allowance	1	allow	0.00	0.00
Thermal & Moisture Protection				
Firestopping	1	Allow	1,500.00	1,500.00
Thermal & Moisture Protection Totals				1,500.00
Finishes				
Walls, Ceilings, Counter Modification and Rubber base	1	Allow	2,600.00	2,600.00
Finishes Total				2,600.00
Electrical				
Power - Install New Raceway & Wire to Fire Alarm Boxes	1	Allow	41,000.00	41,000.00
Electrical Total				41,000.00
Estimating Contingency		15%		8,300.00
Escalation to mid point Construction				4,300.00
Total MACC For New Fume Hood				**67,600.00**
Construction Related Costs				
Management Reserve				3,400.00
Allowance for Change Orders				6,700.00
Project Tax				6,900.00
Construction Related Costs Total				17,000.00
Total Construction Costs				**84,600.00**
Total Alternate Costs Shown on Next Sheet				
Other Costs				
Furnishings				0.00
Inplant Services				53,900.00
C&C				0.00
Bldg Permit				1,600.00
Other Costs Total				55,500.00
Project Management				15,500.00
TOTAL ALTERNATE COSTS				**168,300.00**

September 17, 2007

Smith Hall 90% DD Report

To progress from 90% DD to 100% CD, AEI will:

- Coordinate a site visit and room access with UWDS for:
    - ~~MDF survey for pathway entrance/exit route planning and new equipment placement~~
    - Detailed pathway tracing/planning through hidden spaces inside walls and between floors to minimize aesthetic impact on the architecture
    - Identification of dead cable plant for immediate wreck out ~~and subsequent reuse of existing pathways and penetrations.~~
    - ~~Survey of rooms not previously accessible for outlet locations and pathway design~~
- Develop a detailed infrastructure re-use plan in conjunction with a cut-over plan to minimize new cores and wall penetrations.
- Estimate pathway sizing, penetration requirements, IDF/MDF equipment configurations and load (power and HVAC) requirements.
- Develop detailed floor plan and riser drawings reflecting pathways, penetration locations, and notes to reach outlets.
- For each IDF and the MDF, complete spreadsheets for cabling totals, equipment requirements, penetration requirements, and distance to each outlet served
- Develop Demolition drawings and narrative
- Develop transition point, communications systems, coordination and hardware detail drawings
- ~~Update the cost estimate~~
- Provide a permit set of specifications and drawings
- Meet with UWDS for a constructability review
- Analyze system alternatives
- Coordinate with UWDS for structural review/approval of penetrations
- Calculate final pathway sizing, penetration requirements, IDF/MDF equipment configurations and detailed load (power and HVAC) requirements.
- Coordinate with UWDS to determine existing vs. new load requirements impact and develop a plan of action for required electrical, lighting, and HVAC upgrade and alternatives.
- Coordinate with UWDS for electrical panel and lighting panel surveys for branch circuitry and IDF lighting design
- Coordinate a site visit with UWDS for:
    - Electrical outlet placement, electrical panel and pathway surveys for branch circuit design
    - HVAC concerns
    - New IDF lighting
    - Electrical/ HVAC/ IT/Structural coordination
    - Constructability review

- Update equipment schedules and material list, electrical panel schedules, outlet schedules, and applicable department outlet schedules.
- Finalize the outlet schedule
- Coordinate Grounding riser diagram, details.
- Develop a final set of drawings, legend, details, notes.
- Develop a constructability (means and methods vs. costs) analysis and provide a narrative report.
- Develop a final set of specifications for meeting performance and aesthetics (execution/installation) requirements inclusive with preferred vendor product lines and/or product numbers
- Provide a final cost estimate inclusive of electrical, lighting, HVAC, and IT labor and material estimates.
- Provide final Design Narrative

Project No. 202028
Smith Hall Communications Design
July 27, 2007

GENERAL SPECIFICATIONS (OUTLINE)

Division 1 - General Requirements
Summary of Work

1. Interior remodel of existing corridors to provide a new communications (IDF) rooms, and upgrade existing MDF room.
2. Modify existing mechanical system.
3. Modify existing fire alarm system.
4. Modify existing electrical system.
5. Modify existing communications system.
6. Contractor will have limited access to loading area.
7. Contractor to notify Owner of fire alarm, mechanical, and electrical shutdowns.

Division 2 – Existing Conditions (Not Used)

Division 3 – Concrete (Not Used)

Division 4 – Masonry (Not Used)

Division 5 – Metals
1. Miscellaneous steel.

Division 6 – Wood, Plastics, Composites
1. Architectural Woodwork.

Division 7 – Thermal and Moisture Protection
1. Firestopping.

Division 8 – Openings (Not Used)
1. Hollow Metal Frame & Wood Doors
2. Door Hardware

Division 9 – Finishes
1. Gypsum partition walls.
2. Resilient Flooring.
3. Painting and coatings.

Division 10 – Specialties (Not Used)

Division 11 – Equipment (Not Used)

Division 12 – Furnishings (Not Used)

Division 13 – Special Construction (Not Used)

Division 14 – Conveying Equipment (Not Used)

Division 15 – Not Used

Division 16 to 20 -Not Used

Division 21 – Fire Suppression

Division 22 – Plumbing (Not Used)

Division 23 – Heating Ventilating and Air Conditioning
1. Air Transfer Grilles

Division 24 – Not Used

Division 25 – Not Used

Division 26 – Electrical
1. Demolition.
2. Remove existing fixtures, receptacles, conduit and wiring.
3. Fluorescent light fixtures.
4. Floor power/data boxes.
5. Conduit for data.
6. Power receptacles, raceways, conduit and wiring.
7. Modification of fire alarm system.

Division 27 – Communications
1. Raceways.
2. Cable Tray
3. Cabling.
4. Devices.

Division 28 – Not Used

Division 29 – Not Used

Division 30 – Not Used

Division 31 – Not Used

Division 32 – Not Used

Division 33 – Not Used

Division 34 – Not Used

Division 35 – Not Used

Division 40 to 48 – Not Used

Exhibit #3

PART 1 GENERAL

1.1 Organization of Information

There are three sections and an appendix which address infrastructure and cable plant requirements for communications systems:

16750 Voice, Data, and Multimedia Communications -- Infrastructure and Cable Plant Design Criteria.

This section gives general directions to the A&E regarding design concepts for communications infrastructure and cable plant.

16751 Voice, Data, and Multimedia Communications -- Infrastructure Contract Guide Specifications

This section gives specific direction on products and execution to the Contractor regarding the infrastructure system for inclusion within the contract package.

16752 Voice, Data, and Multimedia Communications -- Cable Plant Contract Guide Specifications

This section gives specific direction on products and execution to the Contractor regarding the cable plant system for inclusion within the contract package.

Appendix Reference Drawings (indicated by **SD-CM** designation)

This section illustrates points within the text and provides typical and detail drawings for inclusion within the contract package. The A&E shall use these as guidelines to prepare ORIGINAL drawings.

1.1.1 The design standards herein address nearly all voice, data, and multimedia requirements to tie the project area into the University-wide network. In the event the occupant has requirements that cannot be satisfied by these standards, the Architectural and Engineering team (A&E) shall consult with the University's Project Manager and the Computing & Communications (C&C) point-of-contact to develop an acceptable alternative.

1.2 The Basic Model

1.2.1 The principal goal of the University communications standards is to describe a dedicated system of pathways from every communications outlet in the building to the nearest IDF Room and from every IDF Room to the MDF Room, with connections to the inter-building communications system. This system is based on nationally recognized ANSI/TIA/EIA and BICSI building standards described further below.

1.2.2 These standards are premised on a basic infrastructure model (SD-CM-2) which includes the following:

1.2.2.1 MDF Rooms function as the junction between the pathways connecting the building with the inter-building communications system and the pathways leading to the rest of the building. Communications equipment may be installed here.

1.2.2.2 IDF Rooms that are vertically aligned (at least one per floor) having conduit sleeves which pass through to the IDF Room above, thereby forming a vertical riser pathway. Communications equipment may be installed here.

1.2.2.3 Horizontal pathways of cable tray and conduit that radiate from these IDF Rooms on each floor to individual communications outlet locations.

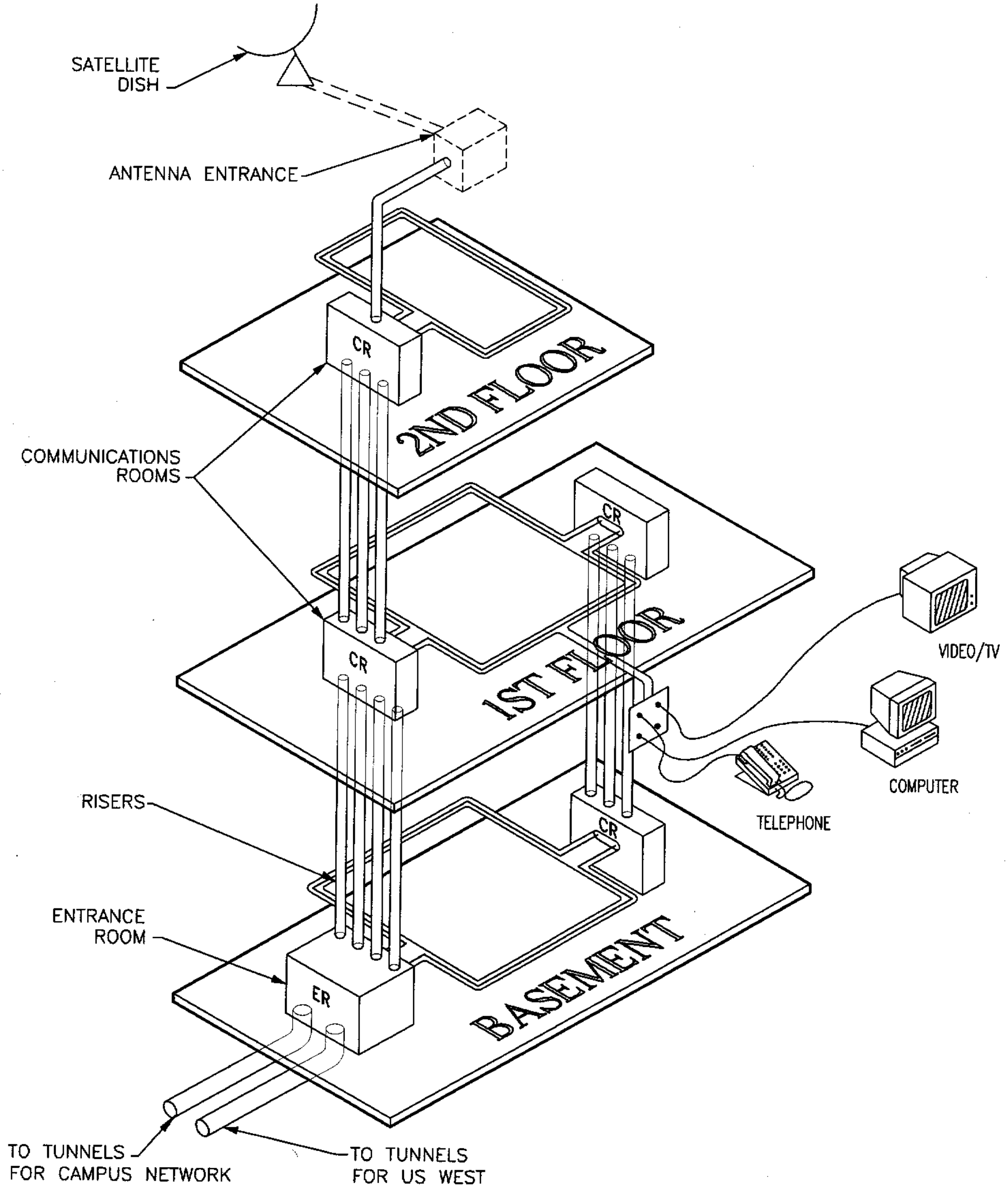
1.2.2.4 Individual communications outlets with conduit either connecting to the cable tray system or directly to the IDF Room.

1.3 Relationship to Electrical Standards

The Communications System has fundamental differences from power and other low-voltage electrical systems which affect the design. The A&E should carefully read and understand the communications design guidelines so that the bid documents (drawings, specifications, and any addenda) clearly reflect these differences. Questions should be addressed to the C&C point-of-contact.

END OF PART 1

16750 INFRASTRUCTURE AND CABLE PLANT DESIGN CRITERIA



UNIVERSITY OF WASHINGTON
1861

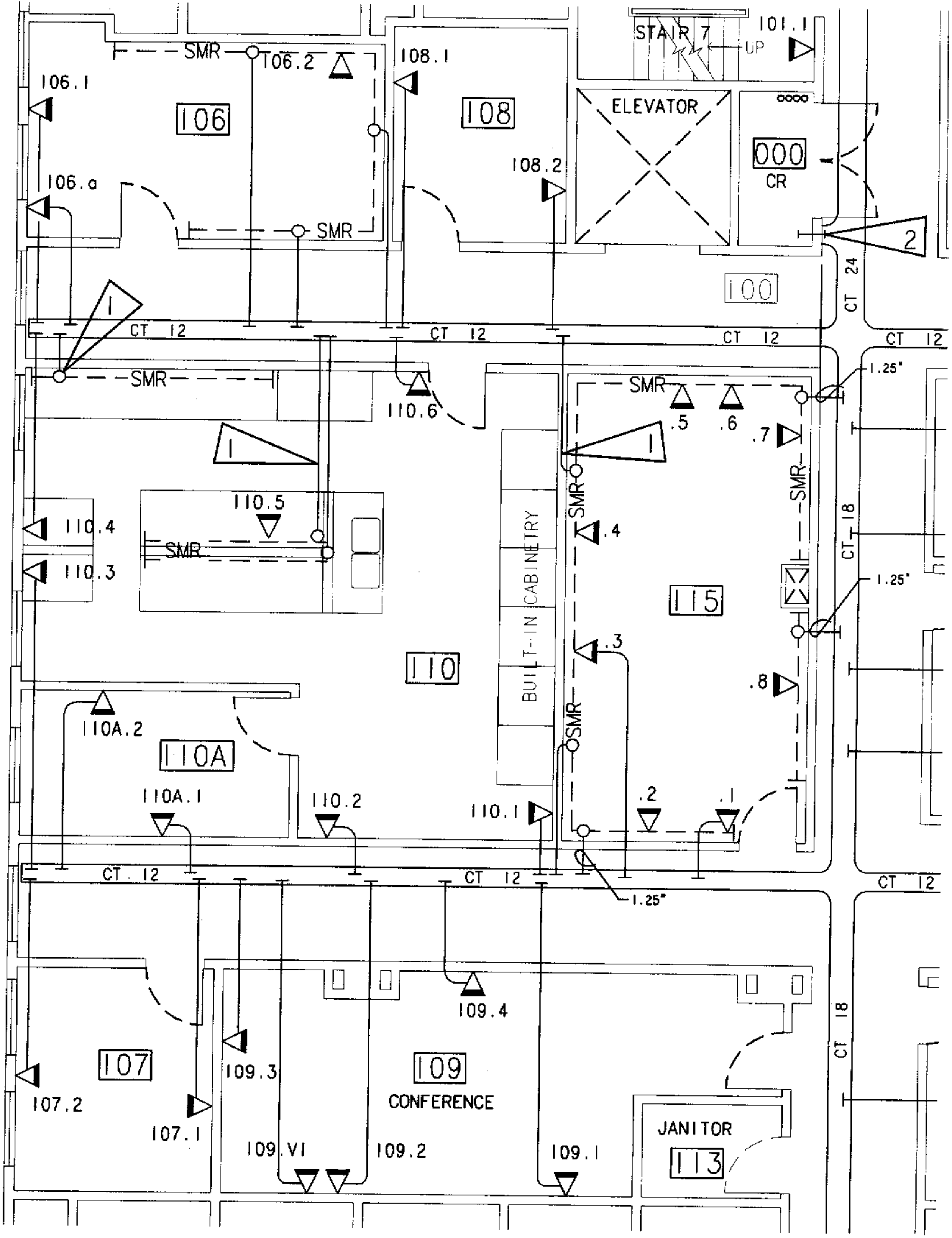
COMPUTING &
COMMUNICATIONS

PLANNING
AND
FACILITIES
INFRASTRUCTURE

INTRABUILDING
ELEMENTS

DRN. BY: S. Richardson
CHECK: P. Stark
APPR: B. Parks
DATE: 10/25/93
REV.: 1.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: BLD-EL.DWG
DWG. NO.: SD-CM-2



1 TYPICAL. ALL FEEDS SHALL BE EQUIVALENT TO 1.25"
SEE ASSEMBLY DETAIL SD-CM-48-51 FOR SMR REAR FEED.

2 (5) - 4" SLEEVES

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LVX SIT
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COMPUTING & COMMUNICATIONS	TYPICAL COMMUNICATIONS FLOOR PLAN	DRN. BY: E. Horst	SCALE: 1/8"=1'-0"
PLANNING AND FACILITIES INFRASTRUCTURE		CHECK: P. Stark	CAD NAME: TYPFLR.DWG
		APPR: B. Parks	DWG. NO.: SD-CM-4
		DATE: 9/1/92	
		REV.: 3.0 DATE: 12/22/95	
		REV. BY: G. Hanna	

OUTLET SCHEDULE: C.R. 000 (REFLECTS CLOSET #)

		INFRASTRUCTURE					CABLE PLANT		
OUTLET ID	ROOM TYPE	ROOM SQFT	APPROX DIST TO CR (FT)	CO SIZE	BOX SIZE	DIST AFF	UNSHIELDED TWISTED PAIR	OPTICAL FIBER	COMMENT
000	C.R.	32	—	—	—	—			No Outlets
101.1	Area of Refuge	—	97 * **	**	2" x 4"	48"	----		*Distance to ER **Variable
106.1	Office	196	61	1"	4" x 4"	18"	(2)V3/(2)D5		
106.2	Office		61		SMR	36"			No Cable
107.1	Office	125	97	1"	4" x 4"	18"	(2)V3/(2)D5		
107.2	Office		92	1"	4" x 4"	18"			
108.1	Office	106	47	1"	4" x 4"	18"			
108.2	Office		47	1"	4" x 4"	18"	(2)V3/(2)D5		
109.1	Conference	261	91	1"	4" x 4"	18"	(2)V3/(2)D5		
109.2	Conference		89	1"	4" x 4"	18"	(2)V3/(2)D5		
109.3	Conference		89	1"	4" x 4"	18"	(2)V3/(2)D5		
109.4	Conference		89	1"	4" x 4"	18"	(2)V3/(2)D5		
110.1	Resch Lab	584	68	1"	4" x 4"	18"	(2)V3/(2)D5	MM2	
110.2	Resch Lab		72	1"	4" x 4"	18"	(2)V3/(2)D5		
110.3	Resch Lab		72	1"	4" x 4"	18"	(2)V3/(2)D5		
110.4	Resch Lab		68	1"	4" x 4"	18"	(2)V3/(2)D5		
110.5	Resch Lab		68		SMR	39"	(2)V3/(2)D5		Coord w/furn
110.6	Resch Lab		68	3/4"	2" x 4"	48"	(2)V3		
110A.1	Office	111	72	1"	4" x 4"	18"	(2)V3/(2)D5		
110A.2	Office		72	1"	4" x 4"	18"	(2)V3/(2)D5		
115.1	Comp Lab	320	88	3/4"	2" x 4"	48"	(2)V3		
115.2	Comp Lab		81		SMR	36"	(2)D5		
115.3	Comp Lab		75	1"	4" x 4"	36"	(2)V3(2)D5	MM2	
115.4	Comp Lab		71		SMR	36"	(2)D5		
115.5	Comp Lab		66		SMR	36"	(2)D5		
115.6	Comp Lab		60		SMR	36"	(2)D5		
115.7	Comp Lab		53		SMR	36"	(2)D5		
115.8	Comp Lab		51		SMR	36"	(2)D5		

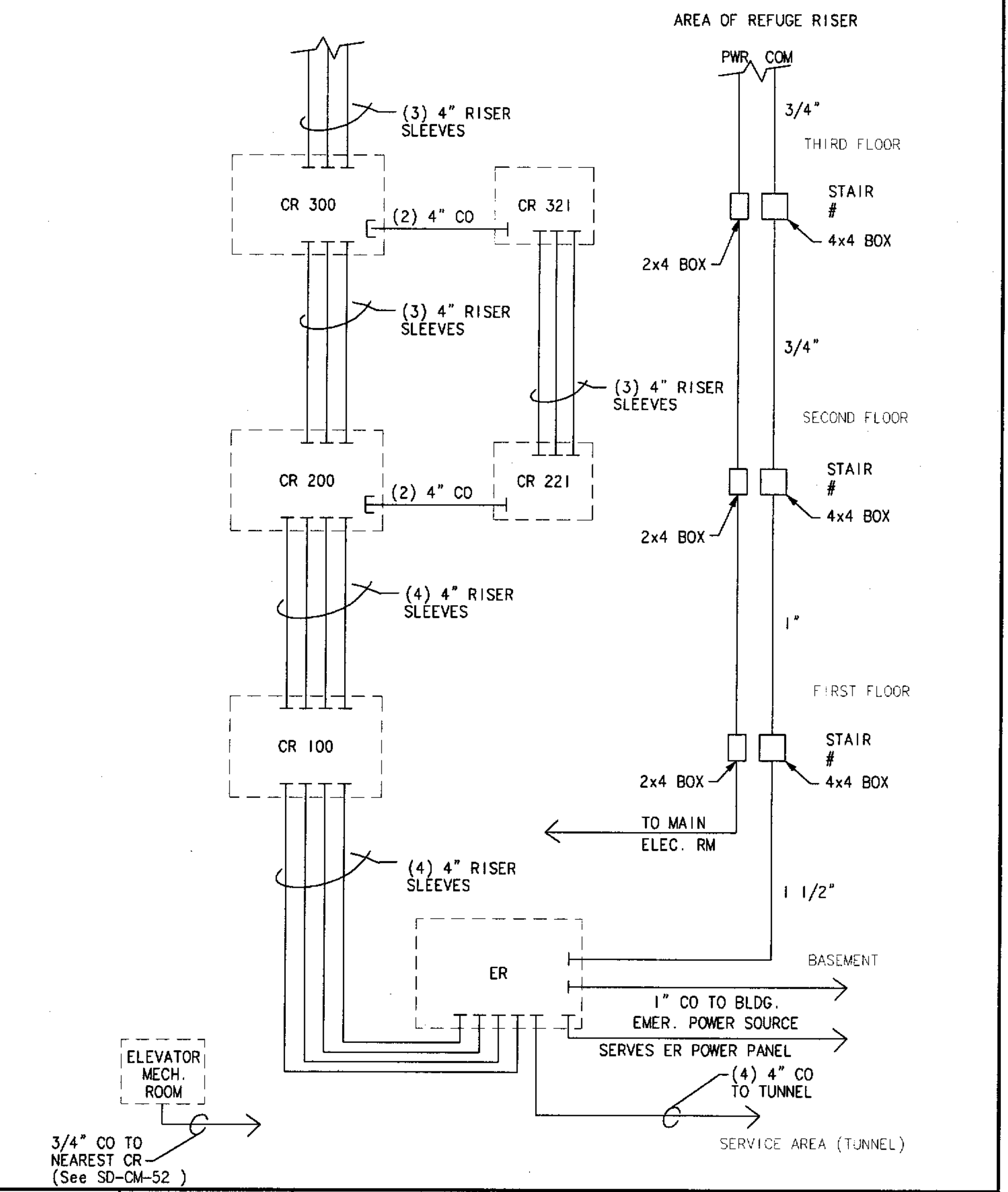
COMPUTING & COMMUNICATIONS

PLANNING AND FACILITIES INFRASTRUCTURE

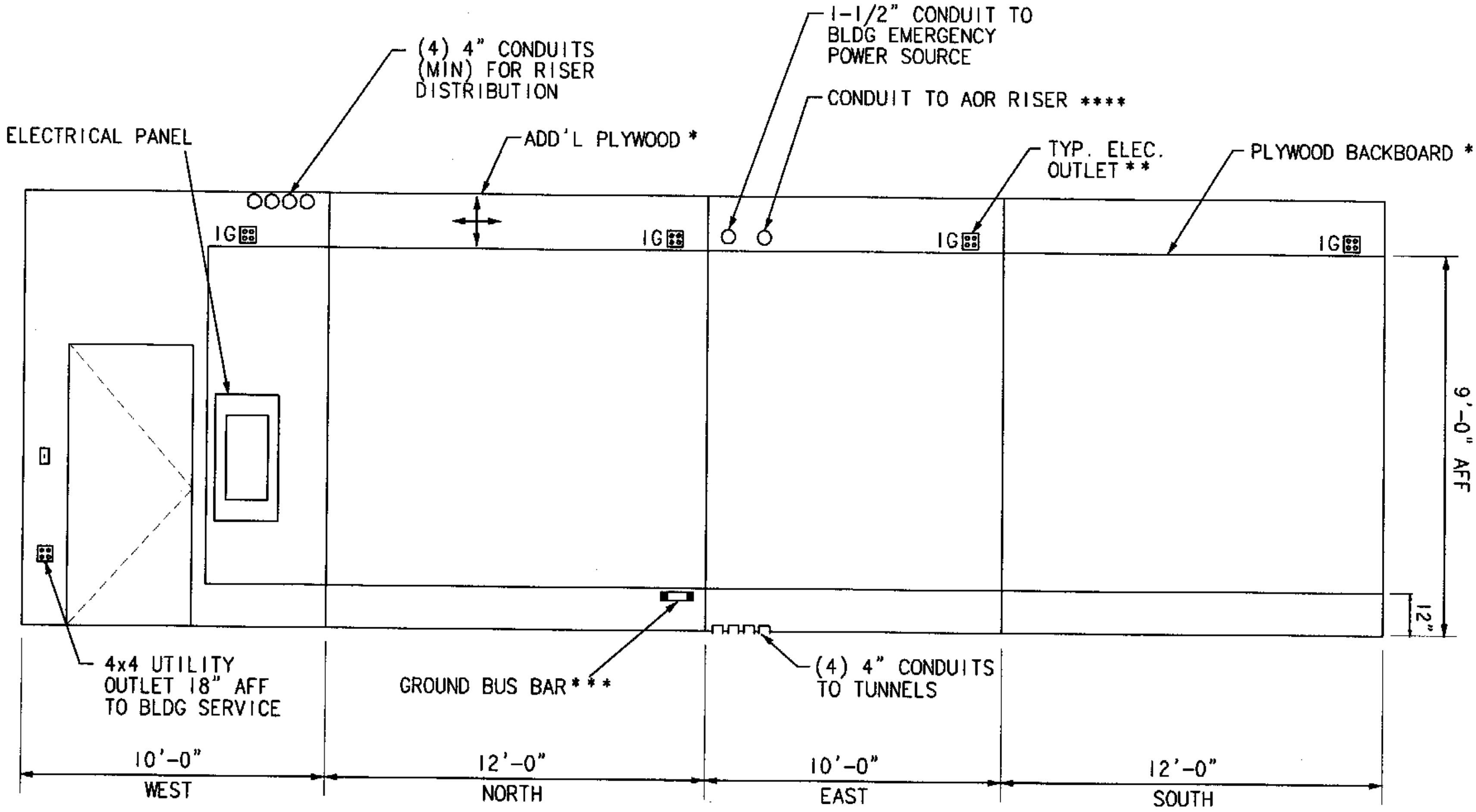
TYPICAL OUTLET SCHEDULE

DRN. BY: E. Horst
CHECK: P. Stark
APPR: B. Parks
DATE: 9/1/92
REV.: 3.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: FLRSCH.DWG
DWG. NO.: SD-CM-5



UNIVERSITY OF WASHINGTON 1861	COMPUTING & COMMUNICATIONS PLANNING AND FACILITIES INFRASTRUCTURE	TYPICAL RISER DISTRIBUTION SCHEMATIC	DRN. BY: E. Horst CHECK: P. Stark APPR: B. Parks DATE: 9/4/92 REV.: 3.0 DATE: 12/22/95 REV. BY: G. Hanna	SCALE: NONE CAD NAME: RISER.DWG DWG. NO.: SD-CM-9



NOTES:

KEY TO CAMPUS-WIDE COMMUNICATONS MASTER KEY.

* ADDITIONAL PLYWOOD AS REQUIRED TO PROVIDE SUPPORT FOR CABLE ROUTING EVERY 4 FEET.

** ELECTRICAL OUTLETS ARE TO BE FLUSH W/ FINISHED SURFACE.

*** COORDINATE LOCATION OF BUS BAR & ROUTE OF GROUND CABLE IN FIELD W/ C&C.

**** AREA OF REFUGE RISER, SIZE TO BE DETERMINED

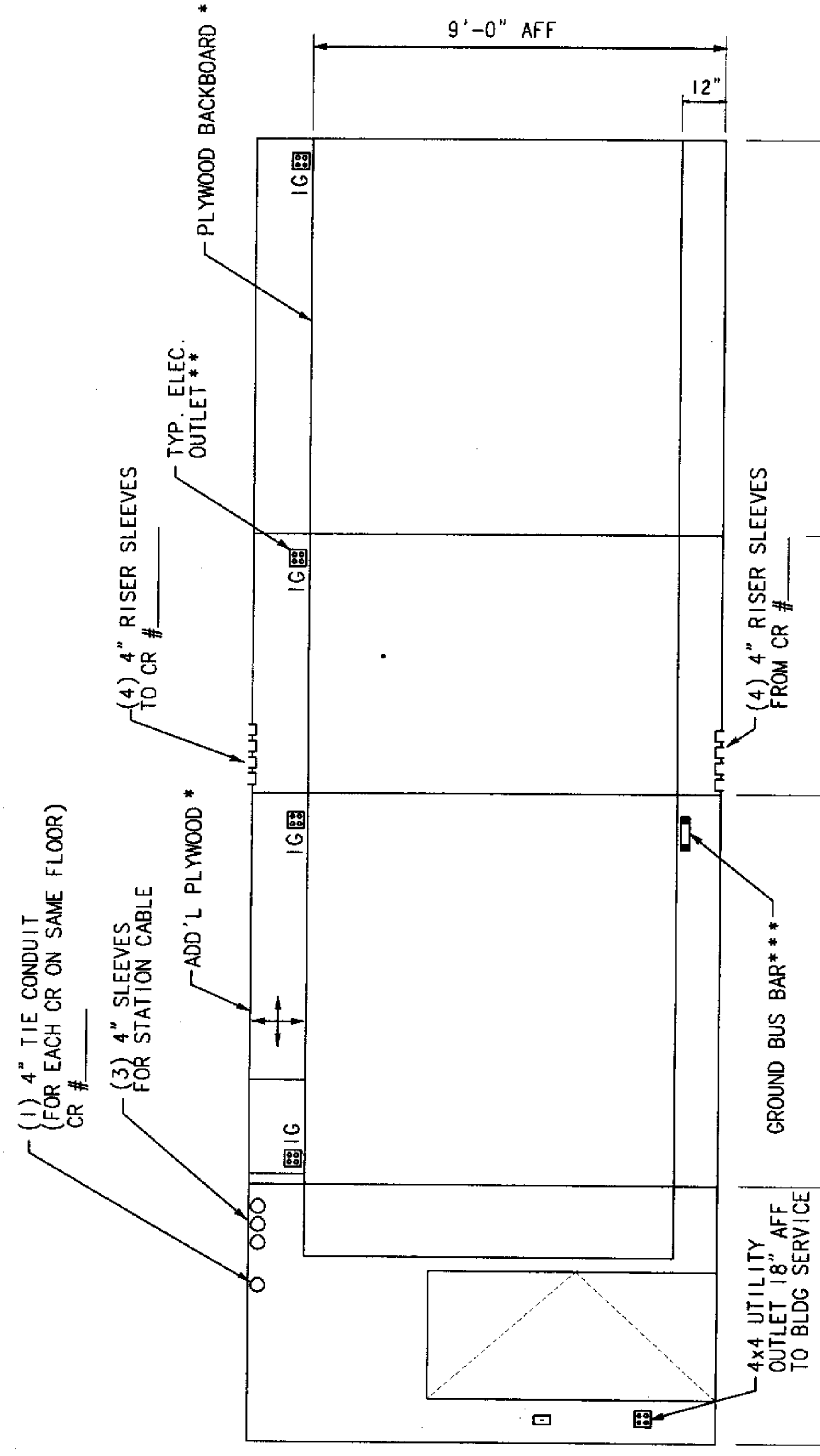
COMPUTING & COMMUNICATIONS

PLANNING
AND
FACILITIES
INFRASTRUCTURE

INFRASTRUCTURE
TYPICAL
COMMUNICATIONS
ENTRANCE ROOM
ELEVATION

DRN. BY: S. Richardson
CHECK: P. Stark
APPR: B. Parks
DATE: 8/30/93
REV.: 3.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: ERIEL.DWG
DWG. NO.: SD-CM-14



NOTES:

KEY TO CAMPUS-WIDE COMMUNICATION MASTER KEY.

* ADDITIONAL PLYWOOD AS REQUIRED TO PROVIDE SUPPORT FOR CABLE ROUTING EVERY 4 FEET.

** ELECTRICAL OUTLETS ARE TO BE FLUSH W/ FINISHED SURFACE.

*** COORDINATE LOCATION OF BUS BAR & ROUTE OF GROUND CABLE IN FIELD W/ C&C.

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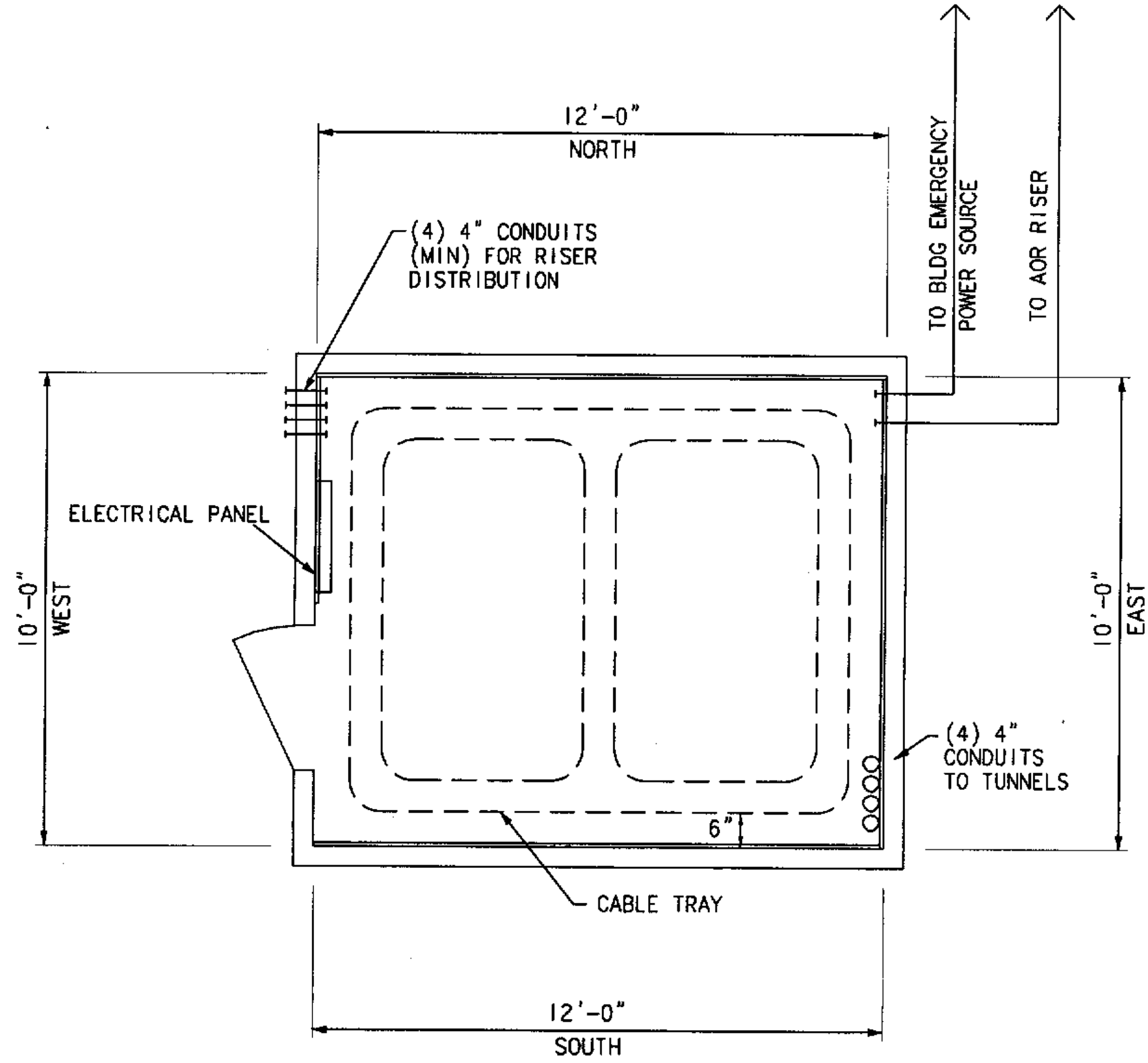
COMPUTING & COMMUNICATIONS

PLANNING AND FACILITIES INFRASTRUCTURE

INFRASTRUCTURE TYPICAL WALK-IN COMMUNICATIONS ROOM ELEVATION

DRN. BY: E. Horst
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 3.0 **DATE:** 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: WKIEL.DWG
DWG. NO.: SD-CM-16



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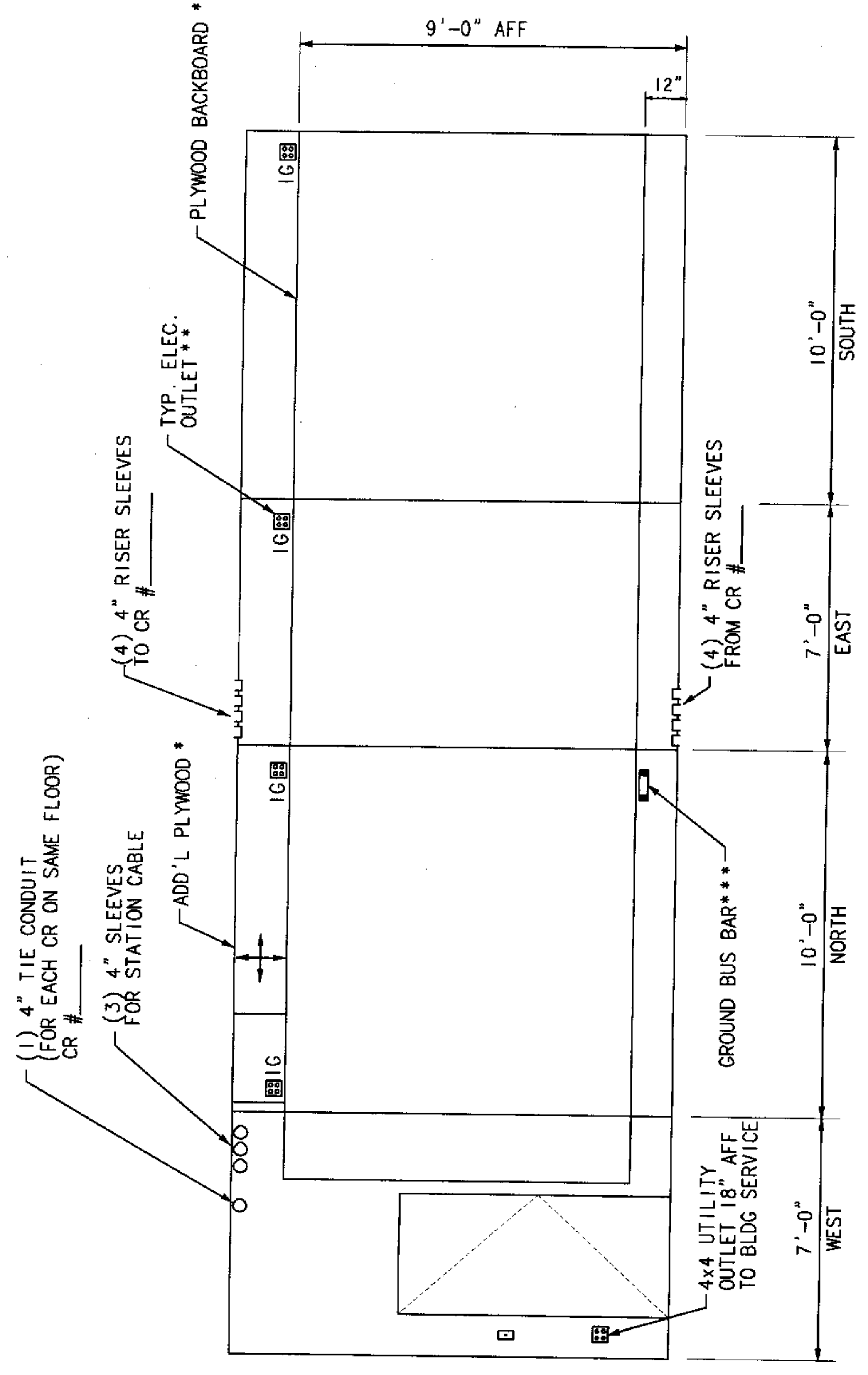
AND
FACILITIES
INFRASTRUCTURE

INFRASTRUCTURE TYPICAL COMMUNICATIONS ENTRANCE ROOM PLAN

DRN. BY: s. Richardson
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 3.0 **DATE:** 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: ERIPL.DWG
DWG. NO.: SD-CM-15



NOTES:

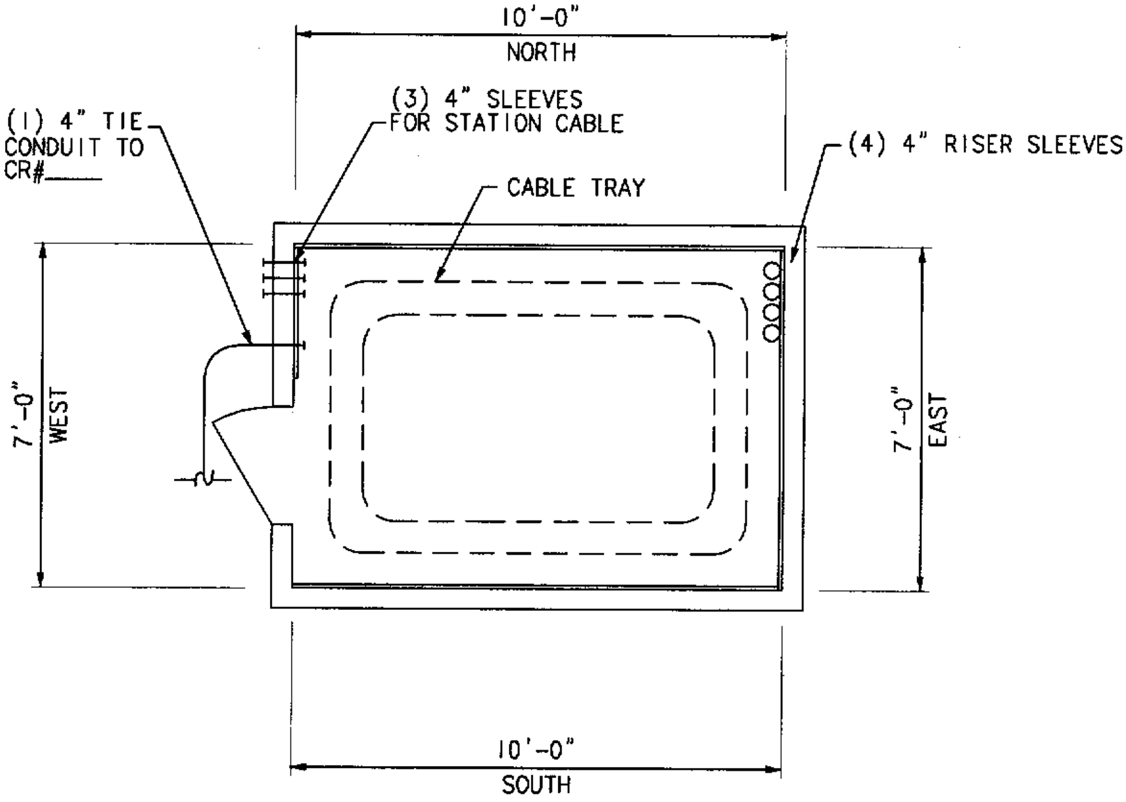
KEY TO CAMPUS-WIDE COMMUNICATION MASTER KEY.

* ADDITIONAL PLYWOOD AS REQUIRED TO PROVIDE SUPPORT FOR CABLE ROUTING EVERY 4 FEET.

** ELECTRICAL OUTLETS ARE TO BE FLUSH W/ FINISHED SURFACE.

*** COORDINATE LOCATION OF BUS BAR & ROUTE OF GROUND CABLE IN FIELD W/ C&C.

UNIVERSITY OF WASHINGTON LVX SIT 1861	COMPUTING & COMMUNICATIONS	INFRASTRUCTURE TYPICAL WALK-IN COMMUNICATIONS ROOM ELEVATION	DRN. BY: E. Horst CHECK: P. Stark APPR: B. Parks DATE: 9/4/92 REV.: 3.0 DATE: 12/22/95 REV. BY: G. Hanna	SCALE: NONE CAD NAME: WKIEL.DWG DWG. NO.: SD-CM-16
	PLANNING AND FACILITIES INFRASTRUCTURE			



UNIVERSITY OF WASHINGTON
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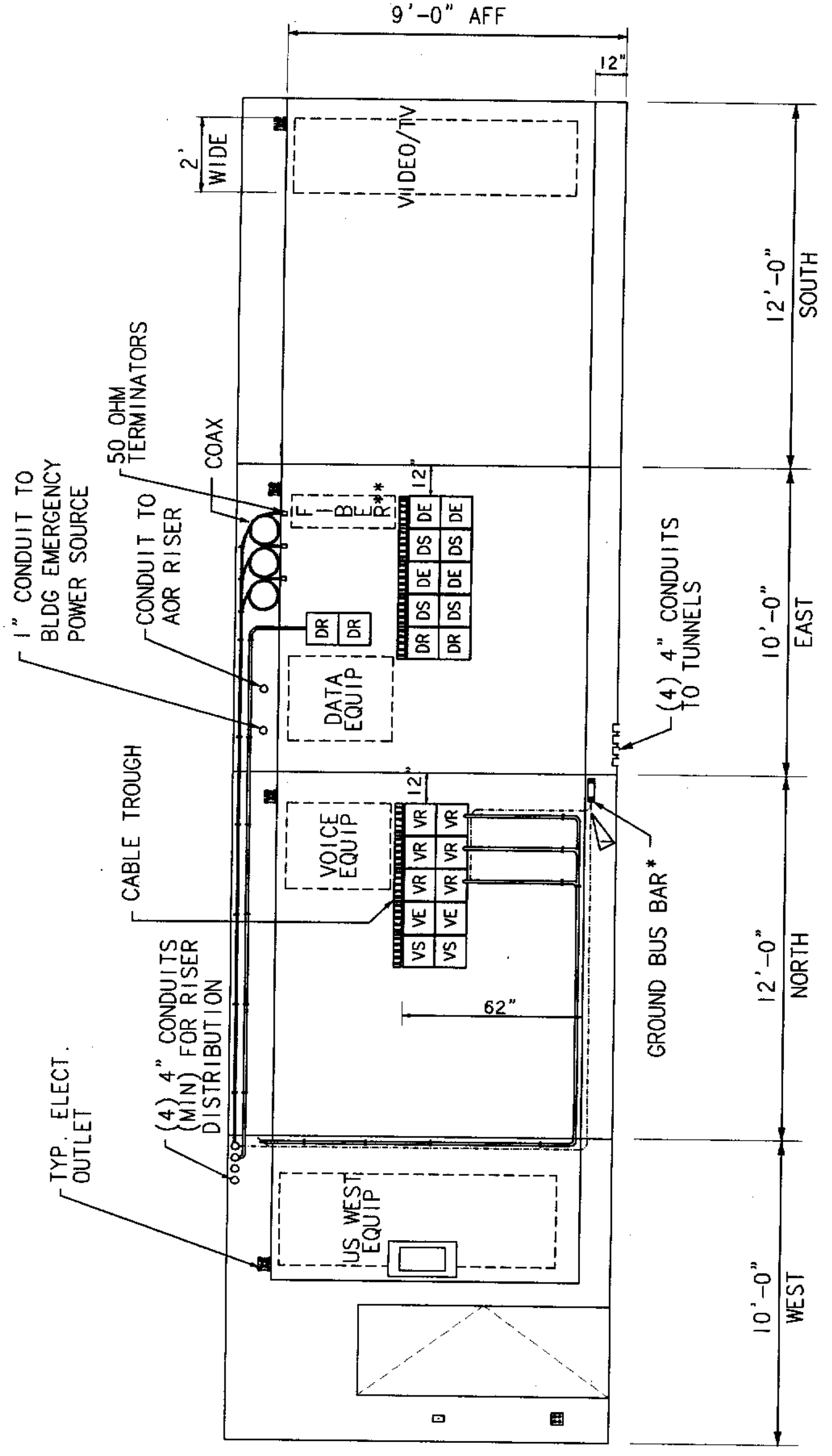
COMPUTING & COMMUNICATIONS

PLANNING AND FACILITIES INFRASTRUCTURE

INFRASTRUCTURE TYPICAL WALK-IN COMMUNICATIONS ROOM PLAN

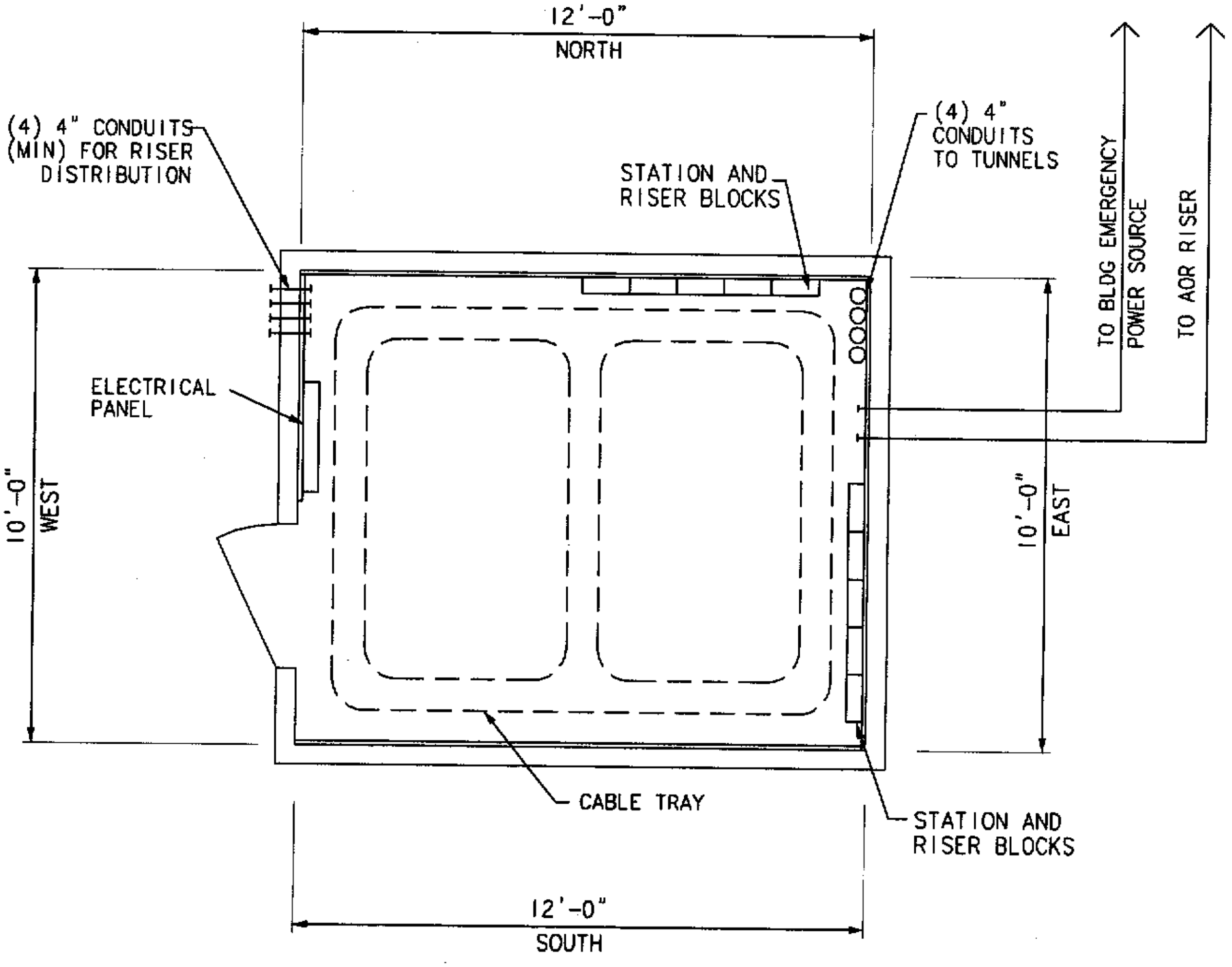
DRN. BY: E. Horst
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 3.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: WKIPL.DWG
DWG. NO.: SD-CM-17



NOTES:
- * COORDINATE LOCATION OF BUS BAR & ROUTE OF GROUND CABLE IN FIELD W/ C&C.
- ** RESERVED FOR FIBER BOXES
- △ EACH VOICE RISER CABLE SHALL HAVE A GROUND WIRE TO THE GROUND BUS BAR.

COMPUTING & COMMUNICATIONS	CABLE PLANT COMMUNICATIONS ENTRANCE ROOM BACKBOARD ELEVATION	DRN. BY: S. Richardson	SCALE: NONE
PLANNING AND FACILITIES INFRASTRUCTURE		CHECK: P. Stark	CAD NAME: ERBBE.DWG
		APPR: B. Parks	
		DATE: 8/25/93	
		REV.: 1.0 DATE: 12/22/95	DWG. NO.: SD-CM-20
		REV. BY: G. Hanna	



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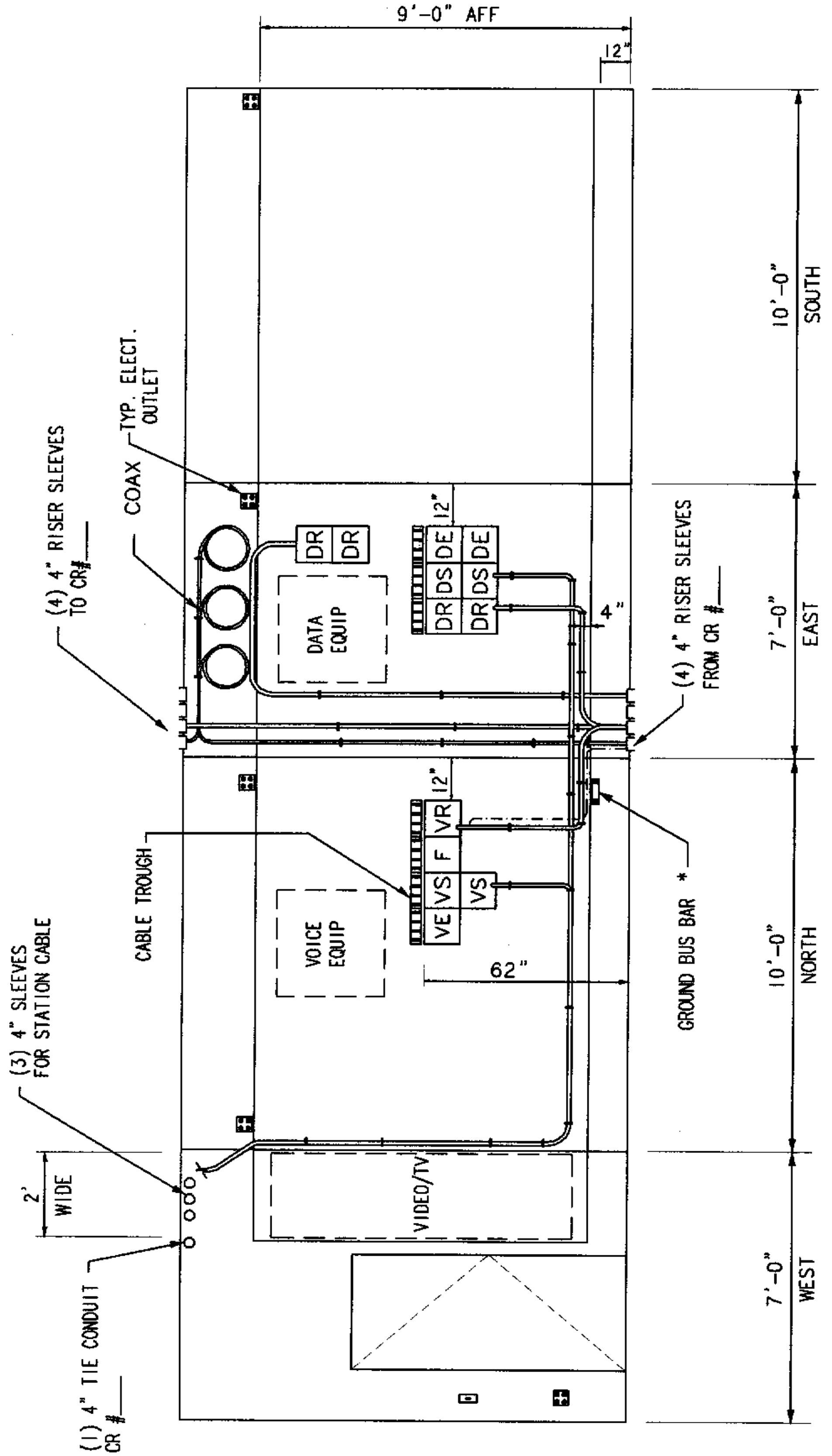
COMPUTING &
COMMUNICATIONS

PLANNING
AND
FACILITIES
INFRASTRUCTURE

CABLE PLANT
TYPICAL
COMMUNICATIONS
ENTRANCE ROOM
PLAN

DRN. BY: S. Richardson
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 2.0 **DATE:** 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: ERBBP.DWG
DWG. NO.: SD-CM-21



NOTE:

* COORDINATE LOCATION OF BUS BAR & ROUTE OF GROUND CABLE IN FIELD W/ C&C.

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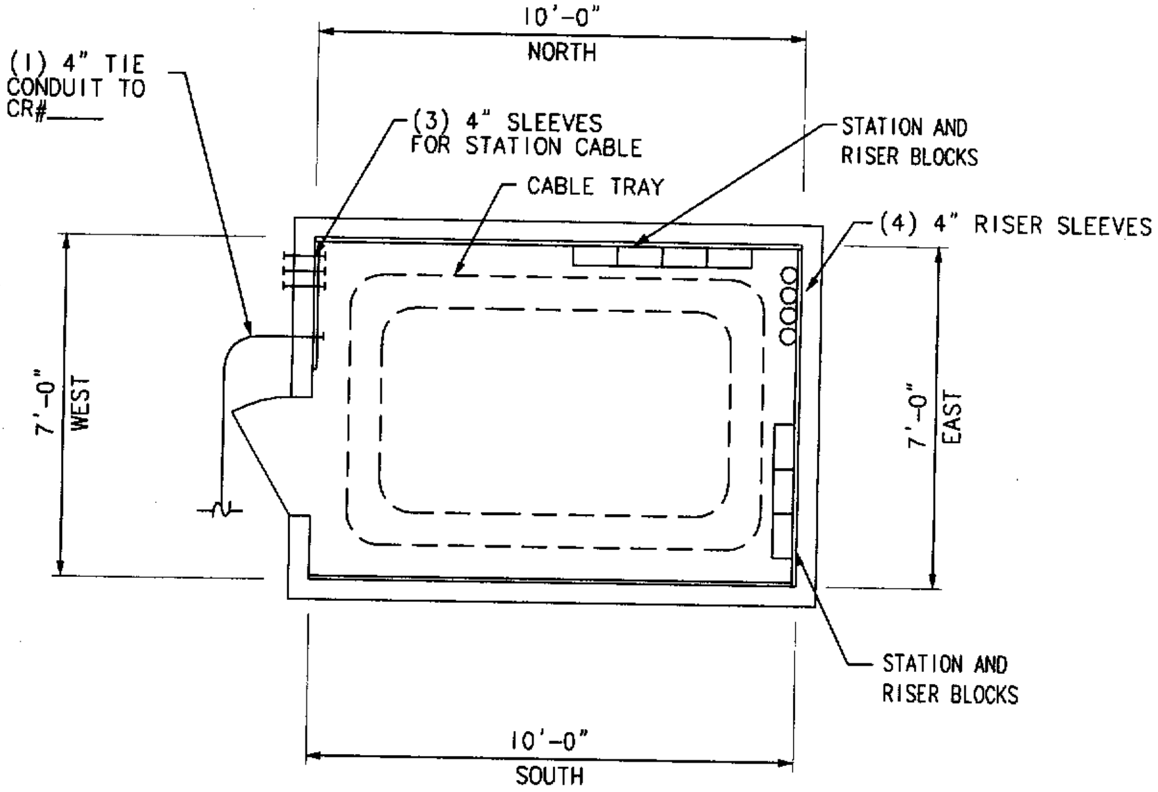
PLANNING AND FACILITIES INFRASTRUCTURE

CABLE PLANT TYPICAL WALK-IN COMMUNICATIONS ROOM BACKBOARD ELEVATION

DRN. BY: E. Horst
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 3.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: WKBBE.DWG
DWG. NO.: SD-CM-22



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COMPUTING & COMMUNICATIONS

PLANNING AND FACILITIES INFRASTRUCTURE

CABLE PLANT TYPICAL WALK-IN COMMUNICATIONS ROOM BACKBOARD PLAN

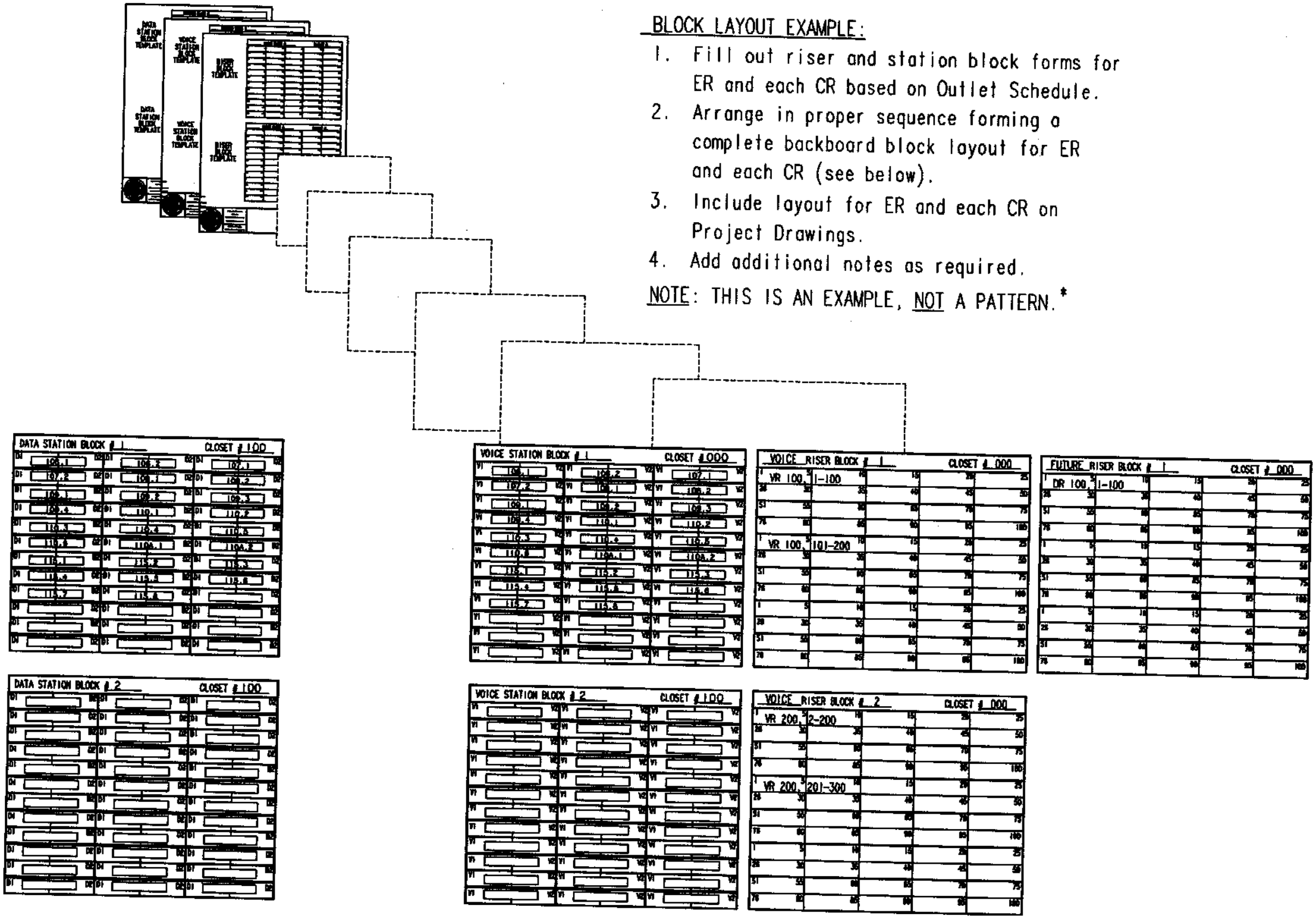
DRN. BY: S. Richardson
CHECK: P. Stark
APPR: B. Parks
DATE: 9/4/92
REV.: 3.0
DATE: 12/22/95
REV. BY: G. Hanna

SCALE: NONE
CAD NAME: WKBBP.DWG
DWG. NO.: SD-CM-23

BLOCK LAYOUT EXAMPLE:

1. Fill out riser and station block forms for ER and each CR based on Outlet Schedule.
2. Arrange in proper sequence forming a complete backboard block layout for ER and each CR (see below).
3. Include layout for ER and each CR on Project Drawings.
4. Add additional notes as required.

<u>NOTE</u>: THIS IS AN EXAMPLE, NOT A PATTERN.*



*Closet number reflects room in which blocks are located.

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AND
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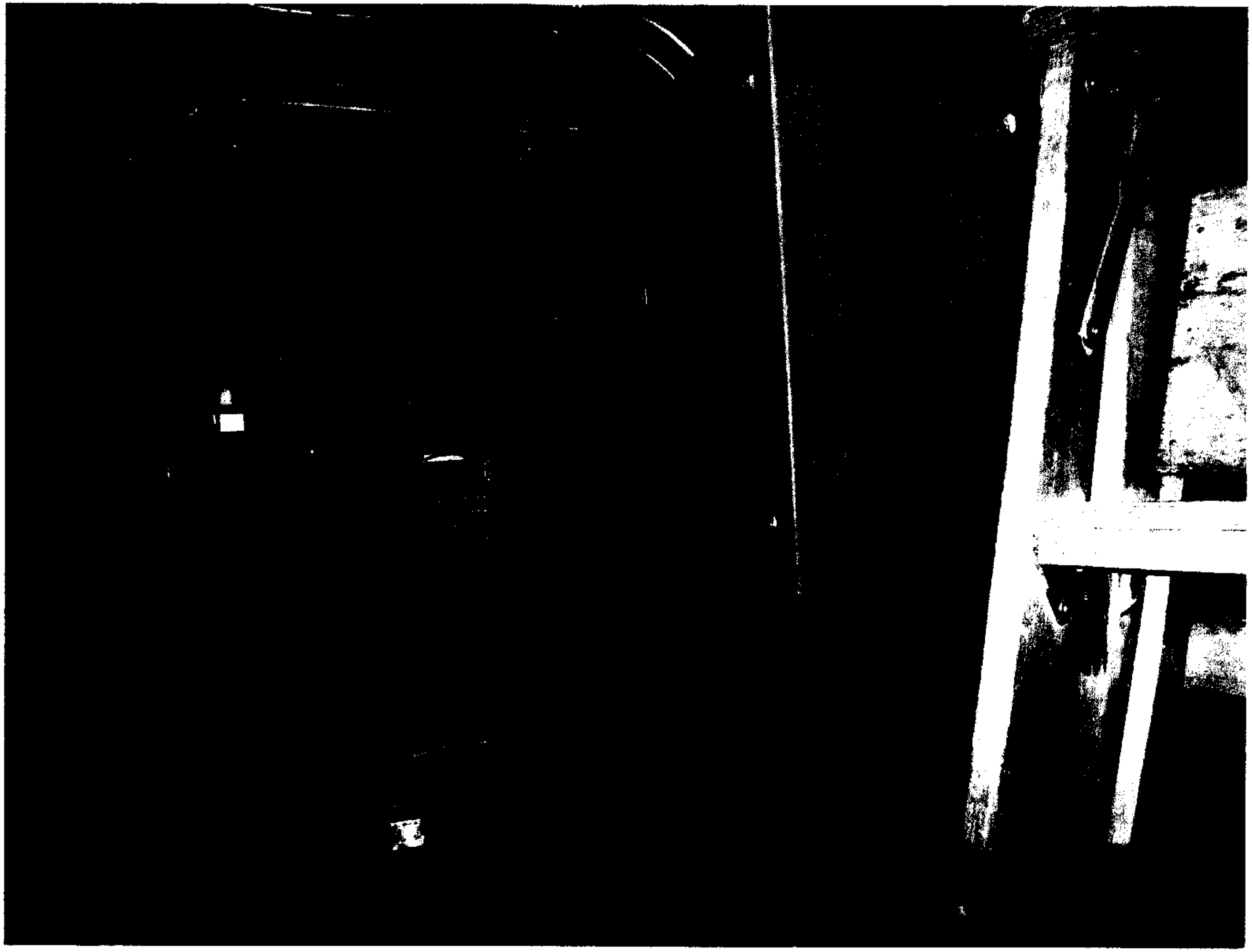
BACKBOARD BLOCK TERMINATION LAYOUT EXAMPLE

DRN. BY: E. Horst	SCALE: NONE
CHECK: P. Stark	
APPR: B. Parks	CAD NAME: TEMUSE.DWG
DATE: 9/1/92	
REV.: 3.0	DATE: 12/22/95
REV. BY: G. Hanna	DWG. NO.: SD-CM-27

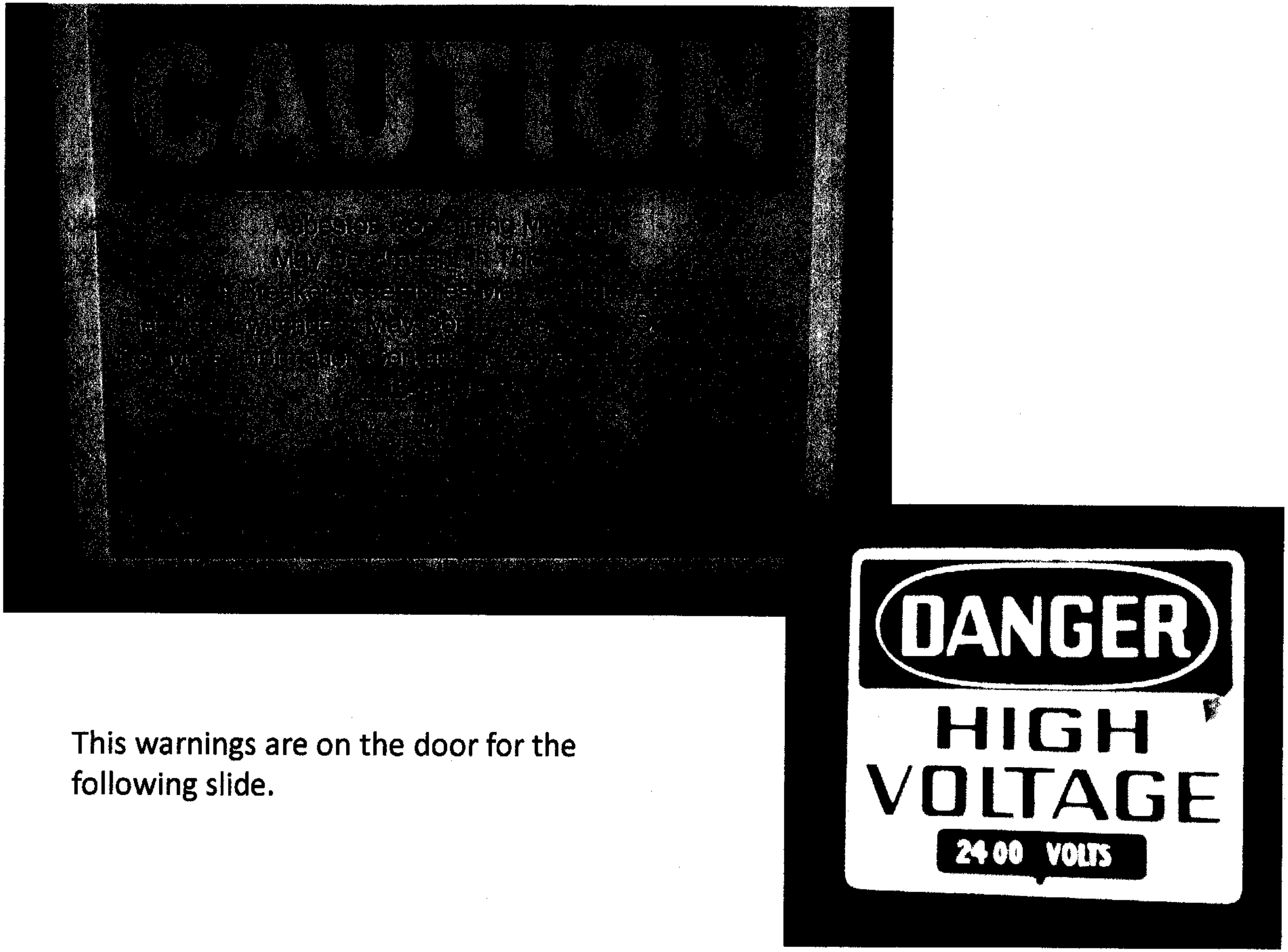
Exhibit #4

Close proximity communications with electrical panel. Code violation.



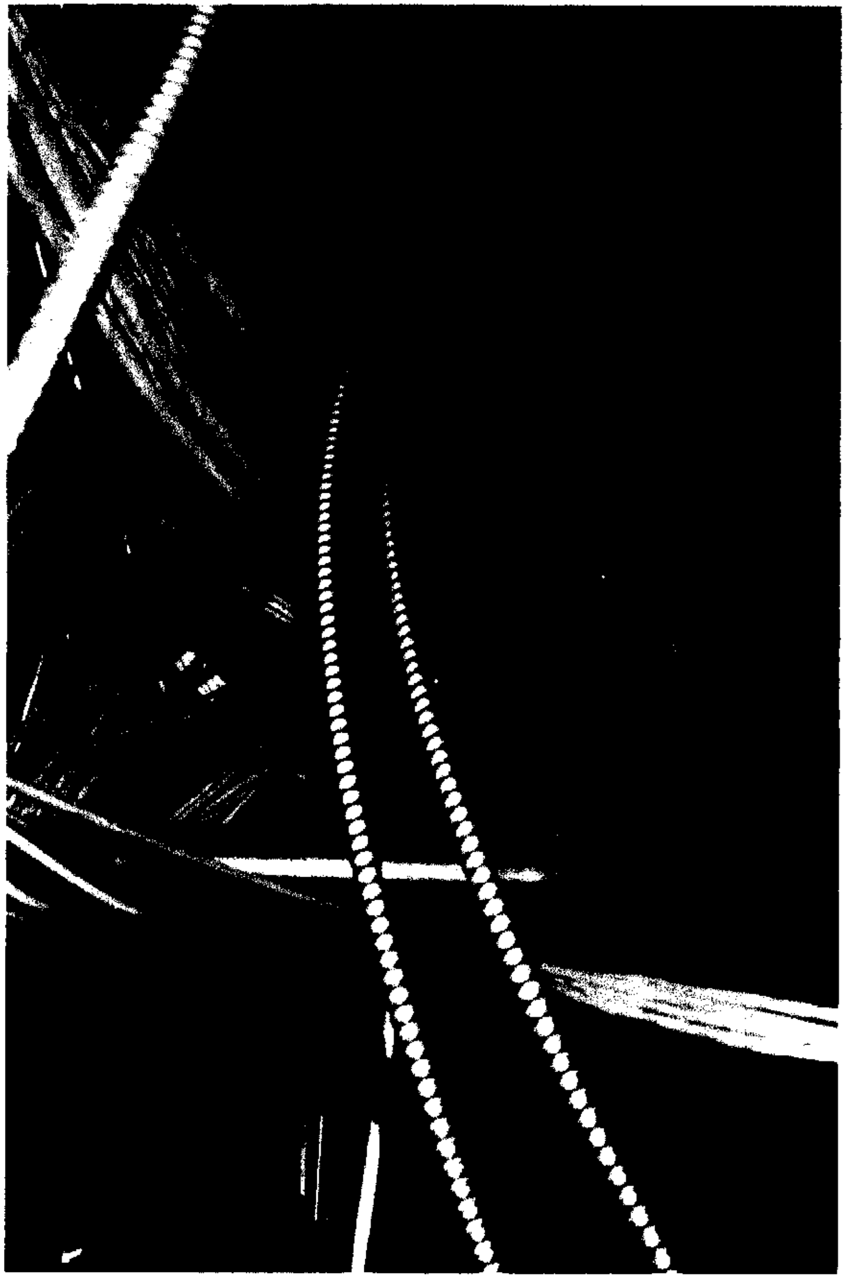
Communications shared with High Voltage. Dangerous. Code violation.

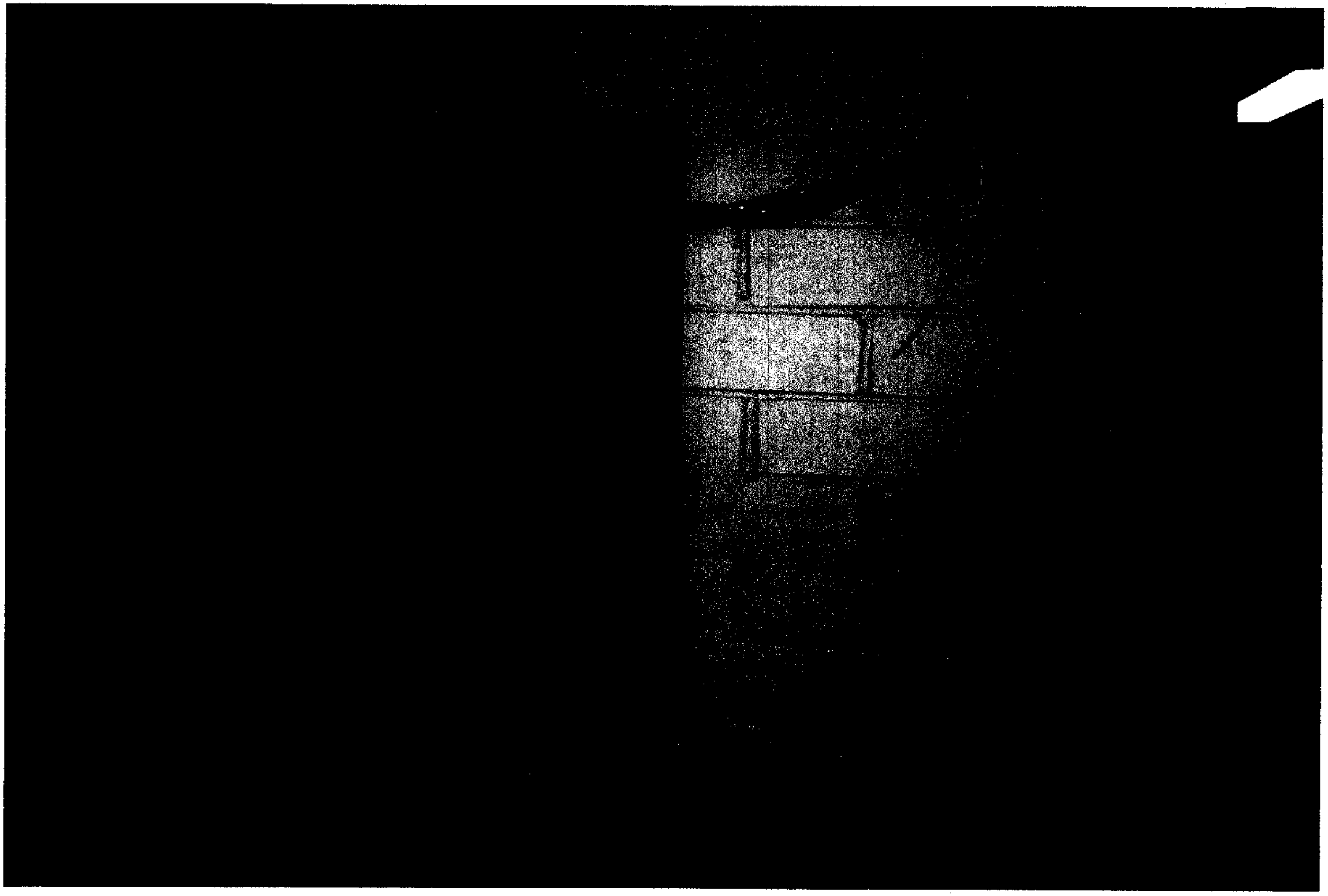
Inadequate cooling for Network equipment.



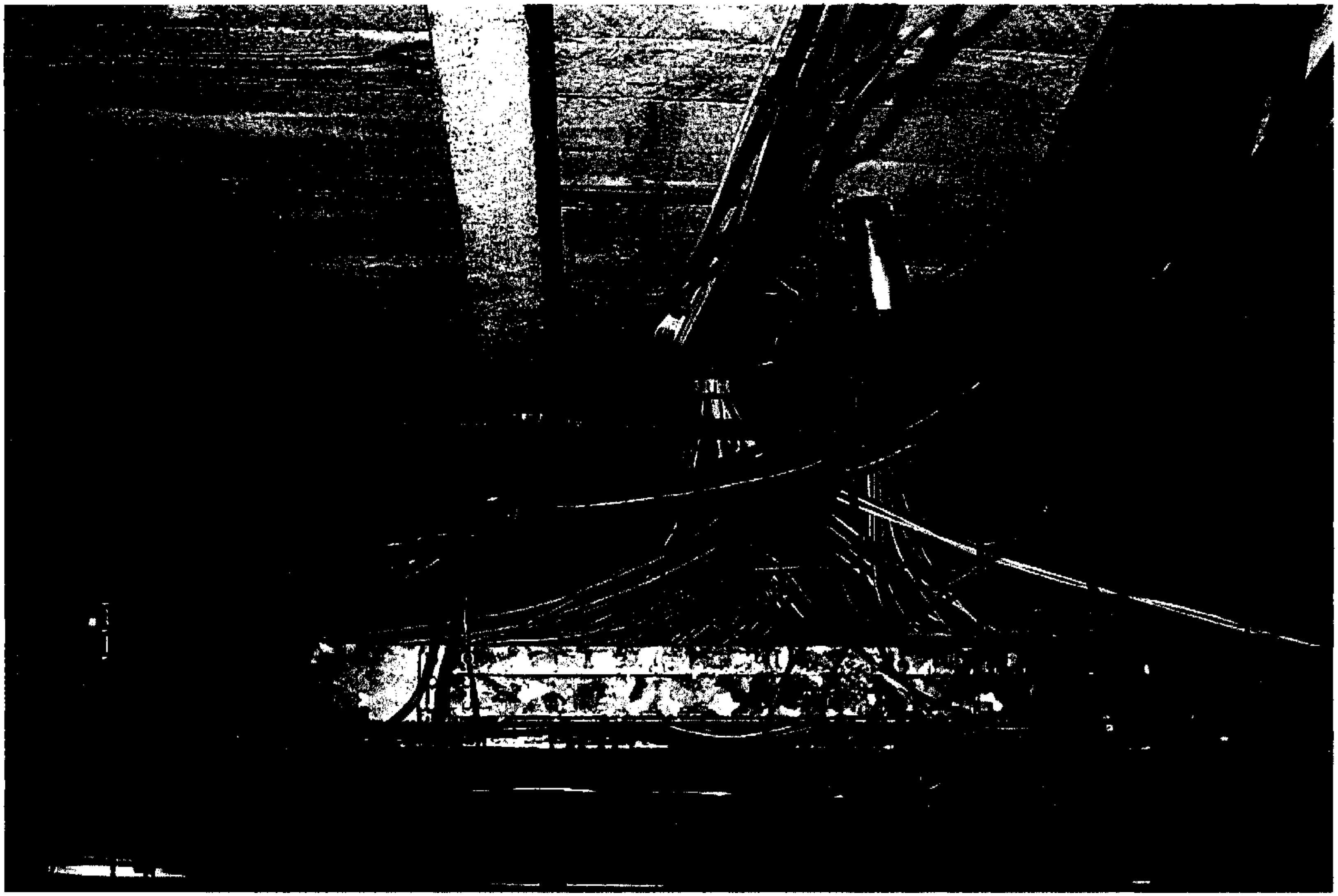
This warnings are on the door for the following slide.

Lack of adequate
pathway. Possible fire
and NEC code violation.

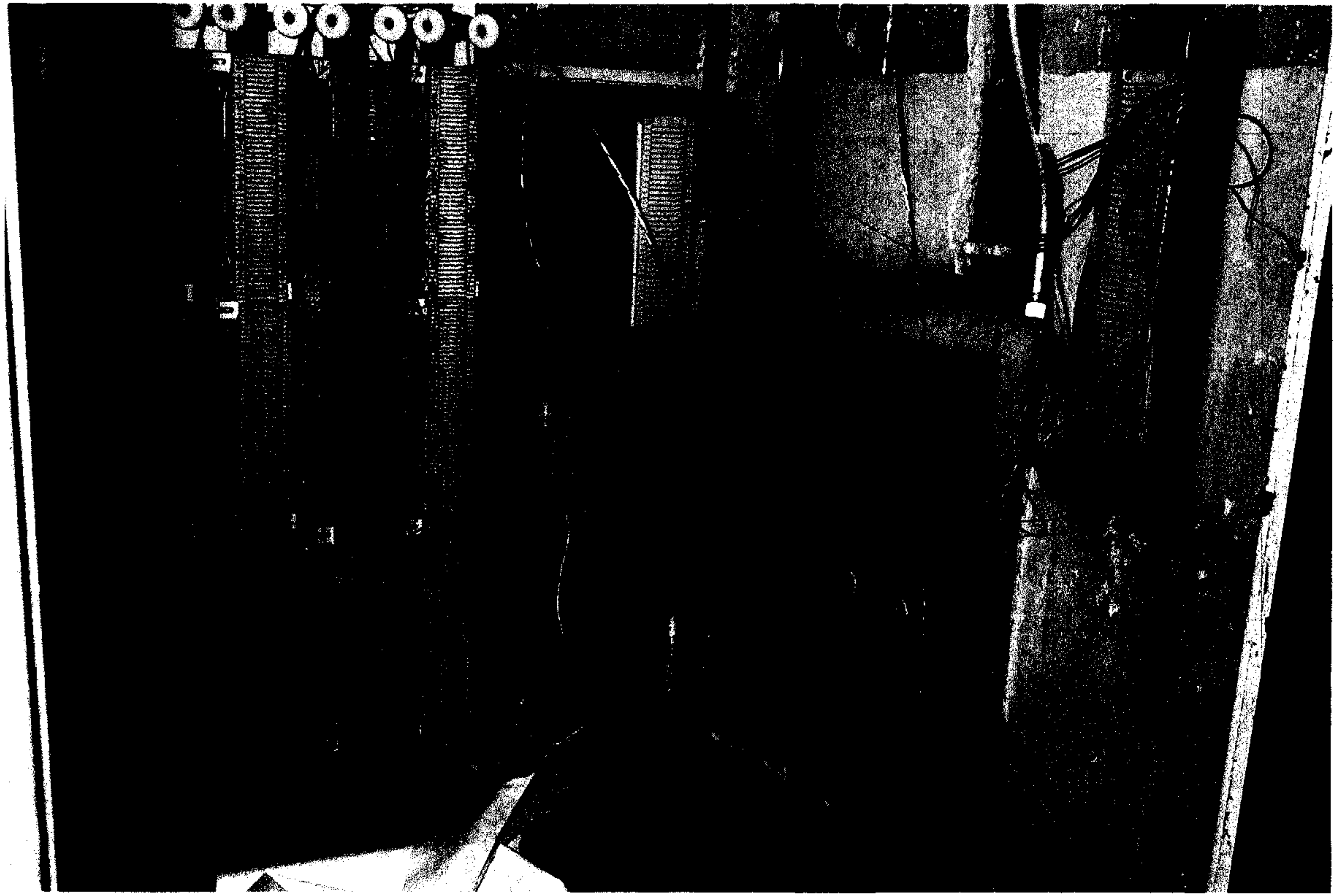




Exposed communications in public space. Non code-compliant.



This communication cabling supports 911 services. Non code-compliant.



Outdated communications.

03-05 WORK PLAN SNAPSHOT

Exhibit #5

5.a.

Proj. Code	BUILDING NAME	Department	Lead	Bid walk	Bid Award	Contractor	Start Date	Status	Compl. Date	WR #	Notes
1013	Qwest cable removal								SEE BELOW		
1013	Cable tray segments		Ken			NetVersant					bid award
1013	FMO Cable removal		Ken					needs estimate			400pr, 550pr
1014	Comm room upgrades										
1014	AA 100b		Ken					survey			conduit to tunnel
1014	Art		Mark			Design					In Design
1014	Bagley		James	29-Oct	15-Nov	Verizon					Rack installed installing Volition
1014	Bloedel		Ric	11-Jan							closet in Design
1014	C201 Hotroom	Hub site	Ken		√	Alterations		apprvd estimate		835963	Tracker # 03-0626-02; For A/C
1014	CHDD South Building		James					surveyed			rat problem meeting 1/27/05
1014	Gould Hall		James			Alterations		Cable to start 2/28		933610	scheduled completion date 2/25/05
1014	Guthrie		Ric			Alterations		apprvd estimate		941639	Cooling
1014	Hub Cabling	Student Union	James			Power Com		in progress			fiber termed and tested by 2/4/05
1014	Padelford	Hub site	Ken			Alterations		in progress		922709	MDF
1014	QRC 039a	MDF	James	27-Oct	6-Dec	Alterations		in progress		927645	waiting on electricalcomplete by 2/11/05
1014	Wilcox		James		31-Jan	Alterations		apprvd estimate		941638	bid award
1015	Art's Router Nodes										
1015	ATG/Chemistry	48/144 pigtail	James	2-Nov	6-Dec	Verizon		complete			waiting on test docs
1015	G130/H008	2-144 strands	James/Gordy	2-Nov	6-Dec	Verizon					Racks In; waiting on OCEF before installing fiber
1015	Kane Fiber Runway		James	29-Nov	6-Dec	NetVersant		In progress			Complete by EOB 2/3/05
1015	K063 to K005/K008/I012x	3-24 str.MM	Ken		8-Dec	NetVersant		In progress			New rack installed, volition starting
1015	Hwing	Hub site	Gordy	29-Oct		Alterations		Tracker		200776	Back up router/HuskyTV/AC/Power
1015	ATG		Ric/Lyle					space negotiation		200663	Build out router room
1016	UWMC infra upgrade										
1016	UWMC NE Pharmacy	Pharmacy						Hold			Closet work/cabletray (breakroom issue)
1016	Roosevelt I 3rd	UWMC	Ric		18-Jan	PowerCom	2-Feb	in progress			Meet w/ occ. Next week
1016	AA-Bbwing cabletray/conduit	UW Med Admin	Gordy	7-Oct	26-Jan	Alterations		approved		926738	fiber strands (ceiling issue)
1017	Copper to Bldg.										
1017	Condon/Roosevelt II		Ken		9-Jul	NetVersant		by circuit Feb.		874699	ComCast relocate splice Feb.
1017	CHDD/EEU		James	9-Feb				surveyed		946970	Need pathway in mech room
1018	SM to building										
1018	Bryant	48/New Fish	James		26-Jan	NetVersant	3-Feb	fiber inn			
1018	Fisheries Research Inst. (old Fish)	24 str./HSRR	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Gould Hall	24 str./ATG	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Henry Art	24 str./Kane	Ken	26-Aug	28-Sep	NetVersant					need to schedule terminations and testing
1018	IMA	12 str./Nordstrom	James	26-Aug	18-Oct	Netversant		terminated		928345	need test docs
1018	Lewis Hall	12 str./ Padelford	Ken	26-Aug	28-Sep	NetVersant		on hold abatement			On NV schedule
1018	Marine Sciences	12 str./OTB/G130	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Music Building	12 str./ Padelford	Ken	26-Aug	28-Sep	NetVersant		on hold abatement			On NV schedule
1018	Ocean Teaching Building	24 str./HSG130	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Print Plant/Mailing Services (maybe liste	12 str./Condon	Ken	26-Aug	28-Sep	NetVersant		Terminated			need to do condon side
1018	Purchasing-Acct(check pathways)	24 str./ATG	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Fwing/CHDD	24 str.	Ken	26-Aug	28-Sep	NetVersant		terminated			need test docs
1018	Cunningham	12 str./ATG	James		5-Jan	PowerCom		fiber inn			needs terminated and tested
1018	QRC 146	12 str./ATG	James	29-Oct	30-Sep	NetVersant		terminated			need test docs
1018	Roos 2	48 str./ATG	James		1-Feb	NetVersant		bid award			will be installed when copper is installed
1019	Moderate cabling	Patch cords	Remote desktop concerns		Bview/switch sheets						
1019	Art North/East Wing	A&S	Gordy			Alterations		meeting w/ occ.			
1019	Benson	Engineering	Ken					meeting w/ Ray			Check for Haz
1019	Bloedel	Forestry	Ric	4-Nov				meeting w/greg b			met w/building admn.& Adam IT Tech
1019	CHDD(tower)/EEU	HS	James	13-Sep	5-Jan	NetVersant	24-Jan	started backbone		929145 complete	NetV to rough in cable only starting 2/7. Voice cutover scheduled for the week-end of 2/18/05

1019	Chem Lib	A&S	James/Pat	11-Nov	7-Dec	Verizon	17-Jan	basement 100%		932314/94 7038	started 1st floor 2/1/05 no problems to date	
1019	Cunningham	Womens Info Ctr.	Gordy	7-Feb				meeting w/ occ.			7-Feb	
1019	Fluke (reterm closets)	WA Tech Ctr.	James			Verizon	7-Feb				no re-wire after closet re-term	
1019	Gould	Arch & Urb Pl	James	7-Jan	27-Jan	Verizon				942260	Schedule start date 2/28/05	
1019	Guthrie	A&S	Ric		7-Sep	PowerCom		in progress			1-4 complete,basement in progress	
1019	Hitchcock		Ric	26-Jan							rec'd bids 02/01/05	
1019	Kincaid Hall	A&S	Gordy	7-Feb				conduit in		919517	7-Feb	
1019	Loew	Engineering Admin	Gordy	7-Feb				Walk thru		945832	7-Feb	
1019	Music Building	A&S	Mark					in progress		926619	WR entered for 3rd floor, 12a &b	
1019	Plant Ops annex 4	CPO	Ken					presurvey			Ken getting drawings	
1019	Plant Ops annex 6											
1019	Univ. Facilities Bldg.											
1019	Univ. Facilities annex 1											
1019	Univ. Facilities annex 2											
1019	Publication Services	Publ. Svcs.	James	21-Jan	27-Jan	PowerCom	7-Feb	started		943748		
1019	Quaternary Research	Geo. Sci.	James	29-Oct	24-Nov	Verizon	10-Feb				Fiber and copper	
1019	Raitt	A&S	Ric	26-Jan							reviewing bids	
1019	Social Work	Soc. Wrk										
1019	Staff Services	Admin										
1019	Communications (Daily)	A&S	James	14-Dec	18-Jan	PowerCom		pathway 3/4 done		937164	rough start date 2/21	
1019	Wilcox	Engineering	James	7-Jan						945543	Pathway work request need estimate from shops	
1019	OTB		James									
1019	Marine Sciences		James	9-Feb				surveyed			bid walks 2/9	
1019	CHDD South		James	9-Feb				surveyed		946431	asbestos survey/47658 abatement	
1020	Major cabling											
1020	Padelford	A&S	Ken	29-Apr	20-Jul	PowerCom	23-Aug	MDF work		10730	Checking with PM	
1020	Art	A&S	Mark					In design			need space	
1020												
1021	C&C Partnering											
1021	OUGL	Libraries	Pat/James		√	Alterations		complete		899524	Work started 8/23/04 897030	
1021	Chem Lib		Pat/James		√						Switches installed	
1021	Art	A&S	Mark		√	Alterations		in progress		865998		
1021	Guthrie	A&S	Mark		√							
1021	Anderson	Forestry	Pat									
1021	FTR	Fisheries	Mark		√							
1021	Fluke	HIT	Lyle								cancelled no switch upgrade	
1021	Cunningham		Gordy									
1021	CHDD South		James					approved				
Budget	$5,000,000.00											
charges	$2,642,217.83											
Balance	$2,357,782.17											
	COMPLETED WORK											
1013	Qwest cable removal											
1013	Test Hazmat		Ken						X		completed	
1013	Test cable tray WT-0/WT-2		Ken						X	896526	completed	
1013	NPL Half Splice		Ken			NetVersant		Compl.	X	858082	completed	
1013	Qwest wreck-out		Ken			NetVersant		Compl.			working on Henry Art	
1013	Demo Coax		Mark					canceled			emailed HuskyTV	
1013	cable tray for copper		Ken			NetVersant			compl.		brackets	
1014	Comm room upgrades											
1014	Eagleson Hall					Alterations			X	914266		
1014	Chemistry					Alterations			X	915207	power	

Prepared by mark p 7/29/2008

1014	Kincaid Hall					Alterations			X	914303	power/ground	
1014	Clark		Ken	25-May	26-Apr	Alterations			25-Jun	903189	ground	
1014	Mueller Hall		James		9-Jul	Alterations			X	910141	power/ground	
1014	Hall Health		James		√	Alterations			X	909654	power/ground	
1014	Marine Studies		James			Alterations			X	910491	Power in ER	
1014	T-050		James	7-Jul	21-Jul	NetVersant			X		move fiber	
1014	Denny		Mark			Alterations			X	902836	Power	
1014	Meany		Mark			Alterations			X	911460	power/ground	
1014	Guthrie		Ric			Alterations			x	916130	met w/electrical to upgrad closet	
1014	Balmer	Hub site	Ken		√	Alterations			X	897823	For cooling	
1014	Condon	Hub site	Ken		√	Alterations			X	859224	A/C, power, backboard	
1014	Communications		James	7-Jul	21-Jul	NV/Alt		Compl.		909641	power/ground	
1014	Oceanography		James/Mark		13-Sep	Alterations		Compl.		909637	Remove fume hood	
1014	New Fish	Hub site						removed			Needs assessment	
1014	Condon fiber relocate		James		11-Jan	NetVersant		compl.			scheduled 1/27/05 12am	
1014	EE	Hub site	Ken			Alterations		compl.			Air flow, lighting	
1014	HUB	Student Union	Lyle			Alterations		compl.		936363	Conduits and pathway	
1014	AA100b	Hub site						removed			Needs assessment	
1015	Art's Router Nodes											
1015	Kane - 4545		Todd			NetVersant			X	856947	Need Test Docs	
1015	Kane - ATG		Todd			NetVersant			X	845630	Need Test Docs	
1015	Chemistry - ATG		Todd			NetVersant			X	842207		
1015	ATG/Kane/G130	96 str./144 str	James			NetVersant		Compl.			need testing	
1015	ATG/Chemistry	materials	James		20-Dec	PowerCom		Compl.			materials only	
1015	ATG/Chem Library		James			NetVersant		Compl.	X	908114	1/14/2005	
1016	UWMC Infra upgrade											
1016	EC030 fiber	Surgery Pav.	James		√	NetVersant		Velwing test docs	X		Test docs reviewed and accepted by Todd	
1016	NEC II 4-43/44	48 str.	James	29-Nov	6-Dec	Verizon		bid award			Cancelled off ICB, on UWMC budget	
1016												
1017	Copper to Bldg											
1017	Fisheries to West Parking Garage		James			NetVersant		Compl.	X			
1017	Fisheries/Purch-Acct. 100pr.				√	NetVersant		Compl.	X			
1017	Condon/Terry Lander				√			Compl.	X			
1017	Condon Tray				√			Compl.	X			
1017	Condon Factor Talls				√			Compl.	X			
1017	Condon to Social Work				24-Jun	NetVersant		Compl.	X			
1017	Archives and ECC				√			Compl.	X			
1017	Condon/APL				√			Compl.	X			
1017	Husky Stadium 300pr				√			Compl.	X			
1017	Fluke/McMahon 100pr.				√	NetVersant		Compl.	X			
1017	Fluke/PPOB 200pr.			28-Jun	1-Jul	NetVersant		Compl.	X			
1017	Fluke/PPO 200pr.			28-Jun	1-Jul	NetVersant		Compl.	X			
1018	SM to building											
1018	ACC to MAR	12 str.	James	26-Aug	28-Sep	NetVersant		Compl.	X			
1018	Art to Balmer Building	12 str./BLM	James	19-Aug	26-Aug	NetVersant	15-Oct		29-Oct		complete	
1018	Anderson, Winkenwerder, Bloedel		James	26-Aug	28-Sep	NetVersant		100%	29-Oct		complete	
1018	CHDD(tower)/EEU School	1-24 Strand Volition	James	3-Dec	6-Dec	PowerCom		completed	1-Feb	931047		
1018	Fisheries Teaching Reserch (directly to	12 str./ACC	Ken	26-Aug	28-Sep	NetVersant		compl.	23-Nov		compl.	
1018	Guthrie Hall	24 str./ATG*	Ken	26-Aug	28-Sep	NetVersant		compl.	24-Nov		CPA 12-3	
1018	Hall Health	12 str./HUB	Ken	26-Aug	28-Sep	NetVersant		compl.	24-Nov		CPA 12-3	
1018	HUB	24 str./Padelford	Ken	26-Aug	28-Sep	NetVersant		compl.	24-Nov		compl.	
1018	Kincaid Hall	12 str./Guthrie*	Ken	26-Aug	28-Sep	NetVersant		compl.	24-Nov		CPA 12-3	
1018	Burke Museum (low priority)	12 str./Balmer	Ken	26-Aug	28-Sep	NetVersant		Compl.	29-Dec			
1018	Condon	12 str./APL	Ken	26-Aug	28-Sep	NetVersant		Compl.	29-Dec			
1018	Hutchinson	12 str./Balmer	Ken	26-Aug	28-Sep	NetVersant		Compl.	29-Dec			

1018	Mechanical Engineering/MEB anx	24 str./Wilcox	Ken	26-Aug	28-Sep	NetVersant		Compl.		29-Dec			
1018	Wilcox/Roberts/Mueller	24 str./12 str.	Ken	26-Aug	28-Sep	NetVersant		Compl.		29-Dec			
1018	Benson (low priority, has MM)	12 str./ATG	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1018	Chemistry Library	12 str./ATG	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1018	Engineering Annex	12 str./MEB	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1018	Gowen Hall	12 str./Smith	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1018	Hitchcock	12 str./HSG130	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1018	Savery Hall	12 str./Smith	Ken	26-Aug	28-Sep	NetVersant		Fiber In				done	
1019	Moderate cabling												
1019	HS AAwing/-1BBwing	Health Sci.	James		11-Aug	NetVersant		Compl.		6-Oct			
1019	AERB (new section)	Engineering	James	7-Jul	20-Jul	PowerCom	25-Aug	Compl.		6-Oct			
1019	Roberts Hall	Engineering	James	16-Jul	27-Jul	PowerCom	9-Aug		100%	5-Oct			
1019	Meany	A&S	Mark	14-May	23-Jun	PowerCom	9-Aug	Compl.		25-Aug		Erica phone conv. Aug.	
1019	Marine Studies	Fisheries	James	4-Apr	4-May	NV/Alt	23-Jul		100%	X			
1019	Mueller Hall	Engineering	James	7-Jul	20-Jul	PowerCom	3-Aug	Compl.		X			
1019	OUGL	Libraries	Pat		20-Jul	NV/Alt	23-Aug	compl.			897030		
1019	Old Ocean	Fisheries	James		17-Aug	NetVersant	30-Aug		100%	14-Oct			
1019	Gerberding (1st & 2nd)	Admin	James	25-Jun	28-Jun	NetVersant	13-Aug		100%	21-Oct	921883		
1019	Eagleson Hall	A&S	Gordy w/ Elec. Shop		8-Oct	NetVersant	1-Nov	compl.		3-Dec		Signed off 12-3	
1019	Art	A&S	Mark		√	Alterations	8-Jul	meeting w/ occ.			902377	909794	
1019	Parrington	Public Aff	James					removed				No work to be done	
1019	Denny -various Alterations jobs	A&S	Mark					Compl.				billed	
1019	Communications	A&S	James	16-Jul	27-Jul	PowerCom	20-Sep		100%	15-Dec			
1019	Fisheries Teaching Research	Fisheries	Ric		19-Oct	NetVersant	17-Nov		99%	15-Dec		completed base/1st floors	
1019	Hall Health	STU	James	19-Aug	10-Sep	NetVersant			100%	10-Jan	909556		
1019	Fisheries Center (old)	Fisheries	Ric		19-Oct	PowerCom	6-Dec	completed				rec'd test docs 01/28/05	
1019	South Campus Ctr.	HFS	Gordy					compl.				Install closet clean-up	
1020	Major cabling												
1020	Lewis Hall	Business	Gordy					canceled				Needs Assessment	
1020	MEB	Engineering	Gordy					canceled				Needs Assessment	
1020	Anderson Hall	Forestry	HOLD					canceled				Needs Assessment	
1021	C&C Partnering												
1021	Meany	A&S	Mark		√		9-Aug			X			
1021	Chemistry		Pat		√					X			

5.b.

03-05 Infrastructure Capital Budgets				40-4038				Encumb.	Paid	Diff.	
Reserve for 05-07	TSO#	PO#	WR#	Quote	C.O.	*Tax*	Total Budget				
Art extra from 40-4038							$260,000.00				
Overage added 10-5-06							$125,000.00				
Transfer $from 40-9521(Reserves Budget)							$67,770.85				
Transfer $from 40-4037/40-4845							$142,232.91				
							$595,003.76				
NW 040C remove cabling		221176		$841.00		*$75.69*	$916.69	0.00	919.22	(2.53)	through 14-3070
NW 040C recabling		221176		$2,315.84		*$208.43*	$2,524.27	0.00	3,187.01	(662.74)	through 14-3070
NW 040 reterm existing		238165		$2,044.08		*$183.97*	$2,228.05	0.00	2,234.20	(6.15)	through 14-3070
NW 040 remove fiber		238165		$679.00		*$61.11*	$740.11	0.00	742.16	(2.05)	through 14-3070
Johnson 25pr. IDF		245321		$693.14		*$62.38*	$755.52	0.00	757.61	(2.09)	through 14-3070
										0.00	
Gatehouse 5 25pr.		245335		$1,730.70		*$155.76*	$1,886.46	0.00	1,891.65	(5.19)	through 14-3070
										0.00	
Plant Annex 6 upgrade	PowerCom	282340		$12,987.47	$1,237.23	*$1,168.87*	$15,547.60	0.00	15,547.60	0.00	still working
										0.00	
Music SM fiber		279672		$1,990.12		*$179.11*	$2,169.23	0.00	2,175.20	(5.97)	through 14-3070
										0.00	
Tacoma fiber	PowerCom	291765		$20,850.69	$365.00		$23,188.76	0.00	23,188.76	0.00	through 14-3070
Rrwing materials		Lyle	014244	$3,024.00			$3,024.00	0.00	3,024.00	0.00	
Art Phase II conduit Metal Shop		Ric	067654	$15,240.00			$15,240.00	0.00	15,940.00	(700.00)	direct to 40-4038
Art Phase II conduit Faculty Ofc			063127	$5,718.00			$5,718.00	0.00	5,718.60	(0.60)	direct to 40-4038
Corp Yard fiber repair	NetVersant	340561		$2,762.19		*$248.60*	$3,010.79	0.00	3,030.76	(19.97)	through 14-3070
OUGL copper	NetVersant	317078		$8,552.66	$4,955.82		$14,764.43	0.00	14,764.43	0.00	through 14-3070
HS AA100b to RR conduit			057847	$29,619.00	$3,430.00		$33,049.00	0.00	33,049.00	0.00	direct to 40-4038
HS AA100b to RR 200 pair	Verizon	322676		$5,266.00			5,730.06	5,730.06	0.00	0.00	
Old Physics cable removal	Verizon	302231		$5,267.20			5,730.71	0.00	5,721.45	9.26	through 14-3070
South Campus Ctr. Fiber	Verizon	321108		$1,868.70			2,033.15	2,033.15	0.00	0.00	
South Campus Ctr. Conduit			059699	$3,180.00			$4,878.11	0.00	4,878.11	0.00	direct to 40-4038
South Campus Ctr. Fiber	284964			$127.80			$127.80		127.80	0.00	
HS Twing fiber	Verizon	321122		$31,155.73	$13,125.66	*$2,804.02*	$48,178.16	48,178.16	0.00	0.00	
HS Twing scoffolding			983903	$6,680.00			$6,680.00	0.00	6,447.97	232.03	direct to 40-4038
Chemistry cooling			021463	$25,486.00			$25,486.00	8,438.31	17,047.69	0.00	still working
Bagley 109 suite		321119		$9,729.14		*$875.62*	$10,604.76	0.00	10,585.30	19.46	14-3080
Art overage	285290						$1,023.95		1,023.95	0.00	
Art Phase II cable	Veca	328033		$7,472.00	$23,509.00	*$2,788.29*	$33,862.24	0.00	33,862.24	0.00	14-3080
Art 121			076985	$2,057.00			$2,057.00	0.00	2,082.00	(25.00)	14-3080
Art 353			075973	$2,159.00			$2,681.00		2,681.00	0.00	direct to 40-4038
Hall Health 406			076973	$4,400.00			$4,400.00	0.00	4,400.00	0.00	14-3080
Hall Health 406	Prestige	394267		$4,830.15		*$434.71*	$5,264.86	6.98	5,279.35	(21.47)	
Hub door			075560	$8,850.00			$8,850.00	2,604.17	6,245.83	0.00	14-3080
Safeco pathway	NetVersant	328040		$28,200.00	$4,995.00	*$2,538.00*	$35,733.00	0.00	36,304.65	(571.65)	14-3080
Safeco temp fiber	283397			$831.60			$831.60	0.00	831.60	0.00	
Roosevelt Comm		338978		$4,880.24			$4,880.24	5,440.00	0.00	(559.76)	through 14-3070
Padelford Riser conduit			075586	$33,765.00			$33,765.00	0.00	33,765.00	0.00	
Padelford Riser cabling	Verizon	341311		$24,496.23			$24,496.23	23,895.50	0.00	600.73	
UWMC SW209H IDF expansion			068121	$6,977.00			$6,977.00	0.00	6,977.00	0.00	
CHDD Infra			067539	$32,237.00			$32,237.00	12,293.22	19,943.78	0.00	
Guthrie tiles, conduit, cable	wireless		081243	$33,550			$33,550	15,909.11	17,640.89	0.00	
AERB conduit, cable	wireless		024725	$27,540.00			$13,179.58	0.00	13,179.58	0.00	
Art phone work			080455	$632.00			$632.00	0.00	632.00	0.00	
Padelford ground bus			099238	$4,594.00			$4,594.00	$4,594.00	0.00	0.00	
HS Twing cable	wireless	398941		$33,539.59		*$3,018.56*	$36,558.15	$36,558.15	0.00	0.00	
ATG cable			097459	$10,000.00			$10,000.00	$10,000.00	0.00	0.00	
Padleford T&M	283229			$50,000.00			$50,000.00	$50,000.00	0.00	0.00	
						Subtotal	$579,784.52	225,680.81	355,827.39	(1,723.69)	
						Remaining $	**$15,219.24**		Remaining $	**$13,495.56**	
Blue: PO#321122 will increase fund to $48,178.16											
Yellow: not in FIN yet, waiting for final amount.											

Computing & Communications
Campus Rewiring Project

05-07 Biennium as of 6/28/07

ITI Budget							Capital Project Budgets							
Project No.	Budget No.	YTD Amount					Budget	Budgeted Funds						Balance
		Expend.	Trns - CPA	Balance	Encumb.	Total			03-05 Exp	Direct Exp	Direct Enc	Frm 14-3080	Pend Trans.	
001013	14-3080	1,065.68	1,065.68	0.00	0.00	0.00	40-4031	202,200.07	201,134.39	0.00	0.00	1,065.68	0.00	0.00
001014	14-3080	12,196.90	12,196.90	0.00	0.00	0.00	40-4032	263,416.32	251,219.42	0.00	0.00	12,196.90	0.00	0.00
001015	14-3080	0.00	0.00	0.00	0.00	0.00	40-4033	136,667.75	136,667.75	0.00	0.00	0.00	0.00	0.00
001016	14-3080	305.84	305.84	0.00	0.00	0.00	40-4034	432,302.68	431,996.84	0.00	0.00	305.84	0.00	0.00
001017	14-3080	17,289.36	17,289.36	0.00	0.00	0.00	40-4035	239,662.69	222,373.33	0.00	0.00	17,289.36	0.00	0.00
001018	14-3080	80,314.21	80,314.21	0.00	0.00	0.00	40-4036	451,552.00	371,237.79	0.00	0.00	80,314.21	0.00	0.00
001019	14-3080	176,315.44	176,315.44	0.00	0.00	0.00	40-4037	1,973,433.67	1,796,080.27	1,037.96	0.00	176,315.44	0.00	0.00
001020	14-3080	311,963.15	235,099.95	########	54,808.02	131,671.22	**40-4038**	669,397.73	74,393.97	141,418.54	232.02	235,099.95	131,671.22	**86,582.03**
	14-3080	0.00	0.00	0.00	0.00	0.00	40-9521	0.00	0.00	0.00	0.00	0.00	0.00	0.00
001521	14-3080	0.00	0.00	0.00	0.00	0.00	40-4435	502,787.48	33,797.35	468,990.13	-	0.00	0.00	0.00
							40-4845	128,609.31	-	128,609.31		0.00	0.00	0.00
		599,450.58	522,587.38	########	54,808.02	131,671.22	**TOTAL**	**5,000,029.70**	3,518,901.11	40.00	232.02	522,587.38	#########	**86,582.03**
													141,418.54	

ITI Budget							05-07 Infrastructure Funding ($2 Million)						
Project No.	Budget No.	YTD Amount											
		Expend.	Trns - CPA	Balance	Encumb.	Total	Proj #	Budget	Budget Title	Funds	Expend.	Encm.	Balance
							200663	40-4842	ATG Comm RM build-out	270,988.98	270,988.98	-	0.00
							010730	40-4775	Padelford comm upgrd	1,231,567.00	1,062,100.57	#########	(5,028.37)
001000	14-3080	159,840.28	158,496.49	1,343.79	48,607.74	49,951.53	001000	**40-5235**	05-07 Comm Infrastructure	222,461.00	159,840.28	48,607.74	**14,012.98**
								40-5304	Winkenwerdr C&C Infrst	34,132.00	18,730.00	20,162.00	(4,760.00)
								40-5305	smith C&C Infrstr DSGN	51,392.00	23,140.00	33,012.00	(4,760.00)
								40-5319	Power Cable RPLC-C&C	-			0.00
								40-9524	Reserve Balance	189,459.02	-	-	189,459.02
Total of 14-3080		**759,290.86**	**681,083.87**	**########**	**#########**	**181,622.75**			Total	**2,000,000.00**	**1,534,799.83**	**#########**	**188,923.63**

S.C.

Communications Infrastructure Project Report 2007-09

March, 2006

Project Name	Description	Buildings		Estimated Cost
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Wells Fargo 4545 building		
		Hlth. Sci. H wing		
		Academic Com. Center (ACC)		
		UWMC EC030		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Various		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Balmer Hall	Mary Gates Hall	
		Gerberding	Electrical Engr.	
		Chemistry		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		CHDD South building	Bagley Hall	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Ocean Teaching building	Social Work/Speech & Hrg	
		University Facilities bldg.	Staff Employment	
		Plant Ops annex 6	Gerberding Hall	
		Loew Hall		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Mechanical Engr. Bldg.	Gowen Hall	
		Anderson Hall	Health Sciences	
		Smith Hall	Bagley Hall	
		Schmitz Hall		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Upgrade CAAMS Network cabling	Establish redundant system	
		Software upgrade	Hardware upgrade	
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
		Internal Re-radiating System	ATG	
		Wells Fargo 4545 building	CSE	
TOTAL				$10,000,000

[redacted]

Exhibit #6

Evaluation of Communications Infrastructure Service
UW Buildings
(Descending Order of Rating)

	A	B	C	D	F	G	I	J	K	L	M	N	O	P	Q
1	**Ratings Current as of July, 2008**														
2				ASSIGN.	GROSS						Pathways				
3	BUILDING NAME	Departments	DATE OCC.	SQUARE FEET	SQUARE FEET	# of Rooms	Fiber MM/SM	% Cat5	Wireless	Closets	Horiz. Dist.	Vert. Dist.	ER	Tunnel Access	Total
4	Allen Ctr. For CSE	Engineering, Comp. Sci	2003		168,954	452	Y/Y	100%	yes	5.0	5.0	5.0	5.0	5.0	25.0
5	Wm. Gates Law School	Law	2003		210,117	414	Y/Y	100%	yes	5.0	5.0	5.0	5.0	5.0	25.0
6	Foege Building	Bio/Genome	2006		264,571	754	Y/Y	100%	yes	5.0	5.0	5.0	5.0	5.0	25.0
7	Art Building	Art	1949	78,735	128,227	195	Y/Y	100%	100%	5.0	5.0	5.0	5.0	5.0	25.0
8	Mary Gates Hall	Physics, Astronomy	1928	87,586	150,934	260	Y/Y	100%	100%	5.0	5.0	5.0	5.0	5.0	25.0
9	New Fisheries (Sciences)	Fisheries	1999	61,939	130,307	378	Y/Y	100%	100%	5.0	5.0	5.0	5.0	5.0	25.0
10	Ocean Sciences	Oceanography	1999	54,331	111,276	291	Y/Y	100%	100%	5.0	5.0	5.0	5.0	5.0	25.0
11	Chemistry Building	Chemistry	1994	59,400	108,000		Y/Y	100%	100%	5.0	4.5	4.5	5.0	5.0	24.0
12	Electrical Engineering	Engineering	1998	76,129	237,794		Y/Y	100%	yes	5.0	4.5	4.5	5.0	5.0	24.0
13	Fluke Hall	Wa.Tech Ctr., Engr.	1990	44,858	72,697	90	Y/Y	60%	yes	5.0	3.5	5.0	5.0	5.0	23.5
14	Hec Edmundson Pavilion(Bank of America Arena)	ICA	1928	159,742	229,479	120	Y/Y	100%	50%	5.0	4.5	4.5	5.0	4.0	23.0
15	Physics-Astronomy Building	Physics, Astronomy	1994	137,120	279,121		Y/Y	100%	100%	4.5	5.0	4.5	4.5	4.5	23.0
16	Suzzallo Library	Libraries	1926	217,633	318,952	340	Y/Y	100%	100%	5.0	4.5	4.5	4.5	4.5	23.0
17	Health Sciences Ctr.(new)G,H,I Wing	Health Sciences	1994	118,106	214,739		Y/	100%	100%	4.0	4.0	4.5	4.5	5.0	22.0
18	Health Sciences Ctr., K Wing	Health Sciences	1995	123,200	224,000		Y/Y	100%	50%	4.5	4.5	4.0	4.5	4.5	22.0
19	Fisheries Teaching & Research Bdg.	Fisheries	1990	17,919	34,788	55	Y/Y	100%	100%	4.0	4.5	4.5	4.5	3.5	21.0
20	Hansee Hall	Residence Halls	1936	73,838	111,364	480	Y/Y	100%	50%	4.0	4.0	4.5	4.0	4.0	20.5
21	Hutchinson Hall	Drama, Rec.Sports	1927	38,216	56,131	55	Y/Y	100%	yes	4.0	4.0	4.5	4.0	4.0	20.5
22	Padelford Hall	Arts & Sciences	1967	71,651	145,660	500	Y/Y	100%	100%	4.0	4.5	4.0	4.0	4.0	20.5
23	Terry-Lander Halls	Residence Halls	1953	211,473	335,678	1016	Y/Y	95%	75%	4.0	4.0	4.5	4.0	4.0	20.5
24	Johnson Hall	Geological Sci.; Geophysics	1930	76,831	124,562	290	Y/Y	80%	100%	4.0	4.0	4.0	4.0	4.5	20.5
25	Intramural Activities Building	Rec. Sports	1968	117,433	289,347	55	Y/Y	100%	50%	4.0	4.5	4.5	3.5	3.5	20.0
26	Parrington Hall	Pub. Affairs; CIDR	1902	26,489	53,963	110	Y/Y	100%	100%	3.5	4.0	4.5	3.0	5.0	20.0
27	Dempsey Indoor Practice Facility	ICA	2001		95,000		Y	100%		4.0	4.0	4.0	4.0	3.5	19.5
28	Henry Art Gallery	Art Gallery (A&S)	1927	8,192	12,539	15	Y/Y	100%	100%	3.5	3.5	4.0	3.5	4.5	19.0
29	Kincaid Hall	Zoology	1971	44,636	84,459	230	Y/Y	100%	100%	3.0	4.5	3.5	3.5	4.5	19.0
30	Seafirst Executive Center	Business	1998	32,525	65,566		Y/Y	100%	50%	4.0	4.5	4.0	3.5	3.0	19.0
31	Marine Studies Building	Marine Affairs	1983	17,964	30,232	90	Y/Y	100%	100%	3.5	3.5	4.0	3.5	4.0	18.5
32	Savery Hall(construction in progress)	Econ,Soc, Philoso., Library	1917	53,450	102,105	285	Y/Y	100%		3.0	4.5	4.0	3.0	4.0	18.5
33	Thomson Hall	Jackson School	1948	31,424	61,209	130	Y/Y	100%	100%	4.0	4.0	4.0	4.0	2.5	18.5
34	Commodore-Duchess Apartments	Residence Halls	1960	72,628	97,849	180	Y/	100%		3.0	3.5	4.0	4.0	3.5	18.0
35	McCarty Hall	Residence Halls	1960	107,170	170,241	430	Y/	99%	50%	4.0	4.0	3.5	3.0	3.5	18.0
36	CHDD Clinic	Exper Ed-CHDD	1969	62,273	116,878	38	Y/Y	90%	100%	3.5	3.0	4.0	3.0	4.5	18.0
37	Communications Building	Communications; A&S Dean	1951	56,866	104,328	230	Y/Y	90%	100%	3.5	4.0	3.5	3.0	4.0	18.0
38	Music Building	Music	1950	36,096	73,482	165	Y/Y	90%	100%	3.5	4.0	3.5	3.5	3.5	18.0
39	Academic Computer Center	C&C, Do-It	1976	17,519	26,070	50	Y/Y	85%	50%	3.0	3.5	4.0	3.0	4.5	18.0
40	Allen Library	Libraries	1990	154,763	221,635	90	Y/Y	85%	100%	4.0	3.0	4.0	4.5	2.5	18.0
41	Publications Services Building	Pub. Services(Print Plant)	1990	48,171	60,003	50	Y/Y	35%		4.0	3.5	4.0	4.0	2.5	18.0
42	Hitchcock Hall	Biology/Botany	1982	62,229	106,372	200	Y/Y	95%	yes	3.5	3.5	3.5	3.5	4.0	18.0
43	Graves Building Annex	ICA	1988	19,779	31,320	55	Y/	25%		3.5	4.0	3.5	3.5	3.5	18.0
44	Guthrie Hall	Psychology	1973	39,583	74,291	190	Y/Y	100%	100%	4.0	3.0	3.5	3.0	4.0	17.5
45	Hall Health Center	Student Health; EH&S	1936	29,971	61,537	190	Y/Y	100%	100%	3.5	3.5	3.0	4.0	3.5	17.5

Evaluation of Communications Infrastructure Service
UW Buildings
(Descending Order of Rating)

	A	B	C	D	F	G	I	J	K	L	M	N	O	P	Q
1	**Ratings Current as of July, 2008**			ASSIGN.	GROSS						Pathways				
2			DATE	SQUARE	SQUARE	# of	Fiber				Horiz.	Vert.		Tunnel	
3	**BUILDING NAME**	Departments	OCC.	FEET	FEET	Rooms	MM/SM	% Cat5	Wireless	Closets	Dist.	Dist.	ER	Access	Total
46	Denny Hall	Anthro, LLC,Germ.,Classics	1895	51,654	85,667	200	Y/Y	99%	100%	4.0	3.5	3.5	3.5	3.0	17.5
47	Henderson Hall	Applied Physics, Dean O&F	1929	65,789	106,577	260	Y/Y	80%	100%	3.5	3.5	3.5	3.0	4.0	17.5
48	Kane Hall	CSS; Auditorium	1971	80,032	158,587	120	Y/Y	70%	50%	3.5	3.5	4.0	3.0	3.5	17.5
49	Aerospace & Engr.Research Lab	Engr., Aero & Astro	1969	27,897	58,779	85	Y/Y	60%	100%	3.5	3.5	3.5	4.5	2.5	17.5
50	Hughes Penthouse Theater	Drama	1931	8,135	15,354	3	Y/	0%		4.5	4.5	N/A	4.0	4.5	17.5
51	Merrill Hall	Urban Horticulture	1984	11,491	16,411	45	Y/	100%	100%	4.0	4.5	4.5	4.0	0.0	17.0
52	Condon Hall	Law & Law Library	1974	84,414	132,431	200	Y/Y	60%	yes	3.0	3.0	3.0	3.5	4.5	17.0
53	Engineering Annex	Mech. Engr.;Envir.Stud Inst.	1909	21,776	28,128	80	Y/Y	100%	100%	3.5	3.5	3.5	3.5	2.5	16.5
54	Roberts Hall	Engineering, Mat. Sci.	1921	15,904	32,471	80	Y/Y	100%	100%	3.0	4.5	3.5	2.5	3.0	16.5
55	Gould Hall	Architecture & UP	1972	58,250	115,038	160	Y/Y	90%	100%	2.5	3.0	3.5	3.5	4.0	16.5
56	Burke Memorial Museum	Museum (A&S)	1962	52,767	68,616	82	Y/Y	80%	100%	2.5	3.5	3.5	4.0	3.0	16.5
57	Sieg Hall	Computer Sci. & Eng.	1960	34,820	57,180	125	Y/Y	75%	yes	3.5	3.0	3.0	3.5	3.5	16.5
58	Marine Sciences Building	Oceanography	1966	31,346	60,515	140	Y/Y	30%	100%	3.5	3.5	2.5	4.0	3.0	16.5
59	Health Sciences Ctr., Wing T	Health Sciences	1973	232,594	491,690	800	Y/Y	5%	yes	2.5	2.0	3.0	4.5	4.5	16.5
60	Husky Stadium	ICA	1956	55,757	100,717	100	N/Y	75%	100%	3.5	3.5	3.5	3.5	2.0	16.0
61	Gerberding Hall	Admin; Grad Sch	1949	46,938	80,328	272	Y/Y	50%	100%	3.0	3.0	2.5	3.5	4.0	16.0
62	Smith Hall(Design in progress)	History;Geogr., Slavic, L&L	1939	54,488	92,757	210	Y/Y	50%	100%	2.5	2.5	3.5	3.5	4.0	16.0
63	Benson Hall	Engineering, Chem.	1966	41,536	80,245	144	Y/Y	25%	100%	3.5	3.0	3.0	3.0	3.5	16.0
64	Social Work/Speech&Hearing Sci.	Soc.Work;Speech&Hearing Sci.	1980	50,577	99,566	255	Y/Y	25%	100%	3.0	2.5	3.5	3.5	3.5	16.0
65	Miller Hall	Education	1922	43,704	72,655	260	Y/	15%	100%	2.5	2.5	3.5	3.5	4.0	16.0
66	Heath Sciences Ctr. (new) F Wing	Health Sciences	1964				Y/Y	10%	75%	3.5	3.5	3.0	3.0	3.0	16.0
67	Bloedel Hall	Forestry	1971	40,302	76,623	120	Y/Y	90%	100%	2.0	3.5	2.5	3.0	4.5	15.5
68	Graves Hall	ICA	1963	15,142	29,313	90	Y/	25%		2.5	3.5	3.0	2.5	4.0	15.5
69	Friday Harbor Laboratories	Friday Harbor Labs	1924	64,011	78,586	193	N/			4.0	4.0	4.0	3.5	0.0	15.5
70	Chemistry Library Building	Chemistry	1957	25,158	39,363	85	Y/Y	100%	100%	4.0	4.0	N/A	4.0	3.0	15.0
71	Engineering Library	Libraries	1969	26,125	39,719	45	Y/	50%	100%	3.0	3.0	4.0	2.5	2.5	15.0
72	South Campus Center()	Food Svcs;Bookstore	1975	41,825	69,852	85	Y/Y	5%	50%	3.0	3.0	3.0	3.0	3.0	15.0
73	Mackenzie Hall	Business, Admin.	1960	25,626	43,164	180	Y/	0%		3.0	2.5	4.0	3.0	2.5	15.0
74	Guthrie Annex 2	Psychology	1918	5,680	7,628	39	Y/	100%	100%	2.5	3.5	3.0	2.5	3.0	14.5
75	Oceanography Teaching Building	Oceanography	1969	29,004	58,444	110	Y/Y	100%	100%	2.5	3.5	3.5	2.5	2.5	14.5
76	Odegaard Undergraduate Library()	Libraries	1972	112,691	159,571	135	Y/Y	95%	100%	2.5	3.0	3.0	3.0	3.0	14.5
77	Mechanical Engineering Building	Engineering, Mech.	1959	66,807	97,768	155	Y/Y	40%	100%	2.5	2.5	3.0	3.5	3.0	14.5
78	Health Sciences Center, J Wing	Health Sciences	1965	87,709	155,244	260	Y/Y	35%	75%	1.5	2.5	3.0	4.0	3.5	14.5
79	Mueller Hall	Engineering, Mat. Sci.	1987	9,598	16,687	20	Y/Y	100%	100%	3.5	4.5	N/A	3.5	2.5	14.0
80	Purchasing & Acctg.Bldg.()	Gen.Acctg; Purch.;Parking	1959	28,149	39,576	110	Y/Y	75%		2.5	3.5	4.0	3.0	1.0	14.0
81	Raitt Hall	Sp.Com;Nutrit.Sci.;Scand, L&L	1916	27,282	48,148	140	Y/	65%	100%	3.5	3.0	2.5	3.0	2.0	14.0
82	Architecture Hall	Architecture	1909	28,947	47,450	60	Y/	40%	100%	4.5	4.0	N/A	4.5	1.0	14.0
83	Balmer Hall	Bus.Admin. & Library	1962	48,147	78,677	109	Y/Y	40%	yes	2.5	1.5	3.0	3.5	3.5	14.0
84	Husky Union Building(HUB)	Student Union Facilities	1949	156,465	262,200	270	Y/Y	35%	yes	3.0	3.0	2.5	2.5	3.0	14.0
85	Health Sciences Ctr., I Wing	Health Sciences	1964	71,232	111,385	300	Y/	20%	50%	3.0	3.0	3.0	2.0	3.0	14.0
86	Schmitz Hall	Student Svcs.	1970	60,760	99,691	290	Y/Y	5%		2.5	3.0	2.5	3.0	3.0	14.0
87	Gowen Hall	E.Asian Lib.,PoliSci	1932	41,253	67,200	140	Y/Y	2%		2.5	2.5	3.0	3.0	3.0	14.0

Evaluation of Communications Infrastructure Service
UW Buildings
(Descending Order of Rating)

	A	B	C	D	F	G	I	J	K	L	M	N	O	P	Q
1	**Ratings Current as of July, 2008**														
2				ASSIGN.	GROSS						Pathways				
3	**BUILDING NAME**	Departments	DATE OCC.	SQUARE FEET	SQUARE FEET	# of Rooms	Fiber MM/SM	% Cat5	Wireless	Closets	Horiz. Dist.	Vert. Dist.	ER	Tunnel Access	Total
88	Wilson Ceramic Laboratory	Engineering, Mat. Sci.	1946	3,837	4,909	18	Y/	0%		2.5	3.0	5.0	2.5	1.0	14.0
89	Meany Hall()	Music;Dance	1974	62,413	124,491	95	Y/Y	100%	yes	3.0	3.5	2.0	3.0	2.0	13.5
90	Gilman Building	EH&S; Ed.	1964	5,878	8,271	45	Y/Y	99%		3.0	3.0	4.0	3.5	0.0	13.5
91	3935 University Way N.E.	Grant & Contract Services	1931	4,030	5,363	23	Y/	95%		3.5	3.5	3.0	3.0	0.5	13.5
92	Wilcox Hall	Engineering, Mat. Sci., Civil	1963	25,037	41,265	95	Y/Y	90%	100%	2.5	3.0	2.0	2.5	3.5	13.5
93	Fisheries Center(Old Fish)	Fisheries	1951	64,312	99,870	240	Y/Y	70%	yes	3.0	3.0	3.0	2.5	2.0	13.5
94	Loew Hall	Engineering, Dean	1969	33,279	58,747	135	Y/Y	35%	100%	2.5	3.0	3.0	3.0	2.0	13.5
95	Health Sciences Ctr., RR Wing	Health Sciences	1960	72,966	145,706	340	Y/Y	5%	50%	3.0	2.5	2.5	3.0	2.5	13.5
96	Guggenheim Annex	High Energy Physics	1988	2,987	3,945	13	Y/N	100%		3.5	3.0		3.5	3.0	13.0
97	Plant Services Building	UStores;PPUC	1963	119,235	141,043	130	Y/Y	60%	50%	3.0	3.0	2.5	2.5	2.0	13.0
98	McMahon Hall	Residence Halls	1965	176,949	288,352	950	Y/Y	10%	50%	2.0	2.0	2.5	3.0	3.5	13.0
99	Waterfront Activities Center	Rec.Sports	1977	12,279	20,904	25	N/Y	5%	50%	3.5	3.5	N/A	3.5	2.5	13.0
100	Lewis Hall(construction in progress)	Bus.Admin; ESL	1896	14,485	23,220	80	Y/Y	2%	100%	2.5	3.0	3.0	2.5	2.0	13.0
101	Winkenwerder Forest Sciences Lab(construction in	Forest Resources	1963	16,926	26,248	80	Y/Y	2%	100%	2.0	3.0	2.5	3.5	2.0	13.0
102	~~Brooklyn Building~~	~~Personnel, EEO, Trng&Dev., Law~~	~~1927~~	~~13,744~~	~~24,968~~	~~108~~	~~Y/~~	~~0%~~		~~3.0~~	~~1.0~~	~~4.0~~	~~2.0~~	~~3.0~~	~~13.0~~
103	Nordstrom Tennis Center	ICA	1990	45,082	51,439	12	N/	0%		2.5	3.5	N/A	3.5	3.5	13.0
104	Ethnic Cultural Center	Ethnic Cultural Ctr	1971	6,349	9,000	48	Y/	100%	100%	3.5	4.0	N/A	3.5	1.5	12.5
105	Health Sciences Ctr.(new) D/E Wings	Health Sciences	1970				N/	15%	50%	2.5	3.5	3.0	1.5	2.0	12.5
106	Guthrie Annex 4	Psychology	1947	2,325	3,426	15	Y/	10%		3.5	3.5	N/A	3.5	2.0	12.5
107	Haggett Hall	Residence Halls	1963	126,674	206,114	600	Y/	5%	50%	2.0	0.5	3.5	3.5	3.0	12.5
108	Health Sciences Ctr., Wings A-C	UWMC	1947	130,312	219,108	550	Y/	5%	50%	2.5	2.5	2.5	2.5	2.5	12.5
109	Mercer Hall	Residence Halls	1970	50,741	89,392	300	Y/	5%	50%	2.5	2.5	2.5	2.5	2.5	12.5
110	Child Care Center	Daycare Facilties	1996	3,337	3,681	15	Y/	100%		3.0	4.0	N/A	3.5	1.5	12.0
111	Conibear Shellhouse()	ICA	1949	20,401	26,870	70	Y/	100%	100%	2.5	2.5	2.5	2.5	2.0	12.0
112	Oceanography Building	Oceanography	1932	14,810	25,066	65	Y/	100%	100%	3.5	3.0	2.0	2.5	1.0	12.0
113	Northlake Building	Custodial Services	1928	24,327	28,605	16	N/	99%		3.5	4.0	N/A	3.5	1.0	12.0
114	Atmos. Sciences-Geophysics Bldg.()	Atmos Sci .& Geophysics	1970	45,095	78,186	185	Y/Y	95%	50%	3.0	3.0	2.0	2.0	2.0	12.0
115	Cunningham Hall	Womens Ctr.	1909	3,248	5,104	20	Y/	90%		3.0	2.0	2.0	3.0	2.0	12.0
116	More Hall	Engineering, Civil	1946	52,544	80,161	165	Y/Y	30%	100%	3.0	3.0	3.0	2.0	1.0	12.0
117	Health Sciences Ctr. (old) D-H Wings	Health Sciences	1950	249,409	457,192	1250	Y/YNYY	10%	50%	1.5	3.0	3.0	2.5	2.0	12.0
118	Anderson Hall	Forestry	1925	21,645	33,650	65	Y/Y	5%		1.5	3.0	2.5	2.0	3.0	12.0
119	Guthrie Annex 3	Psychology	1927	3,812	5,131	20	Y/	100%		3.0	3.5	N/A	3.0	2.0	11.5
120	Bagley Hall()	Chemistry	1937	136,495	224,011	390	Y/	60%	25%	2.5	2.5	2.5	2.0	2.0	11.5
121	Guthrie Annex 1	Psychology	1918	3,851	6,516	30	Y/	60%		3.0	3.5	N/A	2.5	2.5	11.5
122	Transportation Services Building(Motor Pool)	Transp.Svcs.	1979	4,861	5,459	10	Y/	25%	50%	3.5	3.5	N/A	3.5	1.0	11.5
123	Nuc. Physics Lab (VandeGraaff Accelerator)	Nuc.Physics	1963	25,350	37,148	30	Y/Y	0%		3.0	1.5	N/A	3.0	4.0	11.5
124	UW Club	Faculty Club	1960	8,684	13,603	20	Y/	0%	100%	3.0	2.5	N/A	3.0	3.0	11.5
125	Plant Operations Annex 6	PPUC Maint.	1985	454	485	30	N/	95%		3.5	4.0	N/A	3.5	0.0	11.0
126	Health Sciences Annex 4	Health Sciences	1992	4,139	6,846	44	Y/	90%		3.0	4.0	N/A	3.0	1.0	11.0
127	Physical Plant Office Building	Facilities Mgt.	1909	6,818	10,303	72	Y/	30%		3.5	2.5	N/A	3.5	1.5	11.0
128	Clark Hall(Construction in Progress)	Military Sciences	1869	15,883	30,568	60	Y/	22%		2.5	3.5	2.5	1.5	1.0	11.0
129	Health Sciences Ctr. AA/BB Wings	Health Sci./UWMC	1952	159,498	312,021	930	Y/Y	1%	yes	1.5	2.5	1.5	4.0	1.5	11.0

Evaluation of Communications Infrastructure Service
UW Buildings
(Descending Order of Rating)

	A	B	C	D	F	G	I	J	K	L	M	N	O	P	Q
1	**Ratings Current as of July, 2008**			ASSIGN.	GROSS						Pathways				
2			DATE	SQUARE	SQUARE	# of	Fiber				Horiz.	Vert.		Tunnel	
3	**BUILDING NAME**	**Departments**	OCC.	FEET	FEET	Rooms	MM/SM	% Cat5	Wireless	Closets	Dist.	Dist.	ER	Access	Total
130	Isaacson Hall()	Urban Horticulture	1986	2,167	2,983	10	N/Y	100%	100%	3.5	3.5	N/A	3.5	0.0	10.5
131	Plant Operations Building	PPlant Operations	1929	5,407	9,178	35	Y/	40%		3.5	2.5	N/A	3.5	1.0	10.5
132	Staff Employment Building	Staff Employment	1948	6,024	10,831	45	Y/	5%		2.5	2.5	N/A	2.5	3.0	10.5
133	Eagleson Hall	Speech & Hearing Sci.	1922	10,434	18,966	60	Y/	100%	100%	3.0	3.0	N/A	3.0	1.0	10.0
134	CHDD South	Exper Ed-CHDD	1969	8,246	12,378		Y/Y	90%		2.0	2.0	2.0	2.0	2.0	10.0
135	University Facilities Annex	Facility Management	1990	2,181	3,482	24	Y/	25%		3.5	3.0	0.0	3.5	0.0	10.0
136	University Facilities Building	Facilities Mgmt.	1982	3,843	6,408	38	Y/	25%		2.5	3.5	N/A	2.5	1.5	10.0
137	CHDD School()	Exper Ed-CHDD	1969	23,950	45,598		Y/Y	10%		2.0	2.0	2.0	2.0	2.0	10.0
138	Douglas Research Conservatory	Urban Horticulture	1988	10,237	12,894	5	Y/	80%	100%	3.0	3.5	N/A	3.0	0.0	9.5
139	Staff Services Building	Staff Svcs;Payroll	1955	8,176	12,352	35	Y/	0%		2.0	3.5	N/A	2.0	2.0	9.5
140	Instructional Center/Theater	Instruc.Ctr.; Ethnic Ctr	1941	9,226	12,176	40	Y/	95%	100%	2.0	3.5	N/A	2.0	1.0	8.5
141	Harris Hydraulics Laboratory	Engineering, Civil, Bio.	1920	16,396	22,933	45	Y/	35%		2.0	2.0	2.0	1.5	1.0	8.5
142	Stevens Court	Residence Halls	1983	82,103	94,881	70	Y/Y	0%	50%	1.5	0.0	2.0	2.5	2.0	8.0
143	Guggenheim Hall	Engineering, Aero&Astro	1929	34,733	56,207	130	Y/	100%	100%	0.5	2.0	2.0	2.0	1.0	7.5
144	Plant Operations Annex 4	PPUC Maint.	1909	6,525	8,525	25	N/	75%		2.0	3.0	N/A	2.0	0.5	7.0
145	4042 12th Avenue N.E.	Residence Halls	N/A	1,413	1,681	12	Y/	10%		0.0	0.0	5.0	2.0	0.0	7.0
146	4034 12th Avenue N.E.	Law	1931	1,676	1,986	16	N/	0%		2.0	3.0	1.0	1.0	0.0	7.0
147	Power Plant	PP Operations	1909	85,509	106,501	110	Y/	0%		2.0	2.0	0.5	2.0	0.5	7.0
148	Roberts Annex	Civil Engr.	1969	1,386	1,680	3	Y/Y	80%		1.0	4.0	N/A	1.0	0.5	6.5
149	1303 N.E. Boat Street	Fisheries	1936	3,552	3,820	20	N/	0%		0.0	0.0	5.0	1.5	0.0	6.5
150	3937 15th Avenue N.E.	Alcho & Drug Abuse Inst.	1964	2,233	3,613	12	Y/	0%		2.5	0.0	N/A	2.5	1.5	6.5
151	Ceramic and Metal Arts Facility	Ceramics	1969	11,159	12,992	17	N/Y	0%		1.5	2.5	N/A	2.5	0.0	6.5
152	Northwest Horticultural Society Hall	Urban Horticulture	1985	3,167	3,932	0	N/	100%		0.0	3.0	3.0	0.0	0.0	6.0
153	1209 N.E. 41st Street	Architecture	1925	1,171	1,552	10	N/	0%		0.0	0.0	5.0	1.0	0.0	6.0
154	Environmental Storage Building	EH&S	1991	4,016	4,454	14	Y/Y	0%		1.0	4.0	N/A	1.0	0.0	6.0
155	Nuc.Physics Lab(Cyclotron Bldg)	Nuc.Physics	1949	7,877	12,061	25	N/	0%		0.5	0.5	5.0	N/A	N/A	6.0
156	Nuc.Physics Lab(Cyclotron Shop)	Nuc.Physics	1948	5,990	6,833	15	N/	0%		0.5	0.5	5.0	N/A	N/A	6.0
157	Observatory	Astronomy	1895	1,263	2,147	8	Y/	0%		2.0	1.0	N/A	2.0	1.0	6.0
158	Bryants Building	UPD,Transp.Svcs.	1943	74,327	86,782	65	Y/	50%	50%	2.0	0.5	0.5	2.0	0.5	5.5
159	3941 University Way N.E.	Drama	1941	6,265	7,576	15	N/	0%		0.0	0.5	5.0	0.0	0.0	5.5
160	3945 15th Avenue N.E.	Alcho & Drug Abuse Inst.	1918	1,505	2,198	16	N/	100%		2.5	0.0	N/A	2.5	0.0	5.0
161	4001-7 University Way N.E.	Drama; Ticket Office	1925	2,322	2,815	12	N/	0%		1.0	2.5	N/A	0.5	1.0	5.0
162	University Records Center	Records Management	1955	6,914	7,464	14	Y/	0%		1.0	2.0	N/A	1.0	1.0	5.0
163	Nuclear Reactor Building	Nuc.Engineering	1961	4,775	6,677	16	Y/Y	0%		1.0	2.0	N/A	1.0	0.5	4.5
164	Johnson Annex A	Geological Sci.	1918	10,480	14,758	40	Y/Y	50%		1.0	1.0	1.0	0.0	0.5	3.5
165	3716 Brooklyn Avenue N.E.(rewire in progress)	Wash..Sea Grant	1951	2,549	3,371	60	N/	0%		1.0	0.0	N/A	1.0	1.0	3.0
166	Playhouse Theatre(Under construction)	Drama	1950	6,740	10,259	12	N/	0%		0.5	1.5	N/A	0.5	0.0	2.5
167	3710 Brooklyn Avenue N.E.(rewire in progress)	Wash.Sea Grant	1950	2,848	3,897	25	N/	0%		1.0	0.0	N/A	1.0	0.0	2.0
168															
169															
170	**On-Campus Sub-Total**			7,102,936	12,800,996	23,518									

Exhibit #7

To: Pam Stewart
Re: Summary of work for Arts & Sciences

Communications Upgrades **Cost**

Original ranked list of A&S Buildings (5/25/04):

			Cost
1.	Art	Majority of building. Design, budget approved. Construction start Winter 2005	$1.030 mil.
2.	Padelford	Majority of building. In Design, budget approved. *Riser work done.*	$1.6 mil. *$94k*
3.	Kincaid	Pathways, cabling upgraded during 2003-05 ICB.	$100k
4.	Thomson	No work done.	$0
5.	Eagleson	Cabling upgraded during 2003-05 ICB.	$35k
6.	Guthrie	Pathways, cabling upgraded during 2003-05 ICB.	$230k
7.	Music	Majority of building done 2001-2003.	$240k
8.	Meany	Pathways, cabling upgraded during 2003-05 ICB.	$38k
9.	Communications	Basement, first floor and Daily office.	$113k
10.	Gowen	(whole bldg needs assessment; large library function so check with libraries)	

Additional communications infrastructure upgrades:

11. Raitt	$61k
12. Bloedel	$148k
13. ATG router room build-out (Design, budget approved)	$260k
14. Chemistry Library	$100k

Network subnet upgrades:
Meany, Art, Guthrie, Cunningham.

Fiber optic cabling has been upgraded/increased for all above buildings; including: Henry Art, Bagley Hall, Burke Museum, Chemistry, Condon Hall, Gowen Hall, Savery Hall, Smith Hall, Hitchcock Hall.

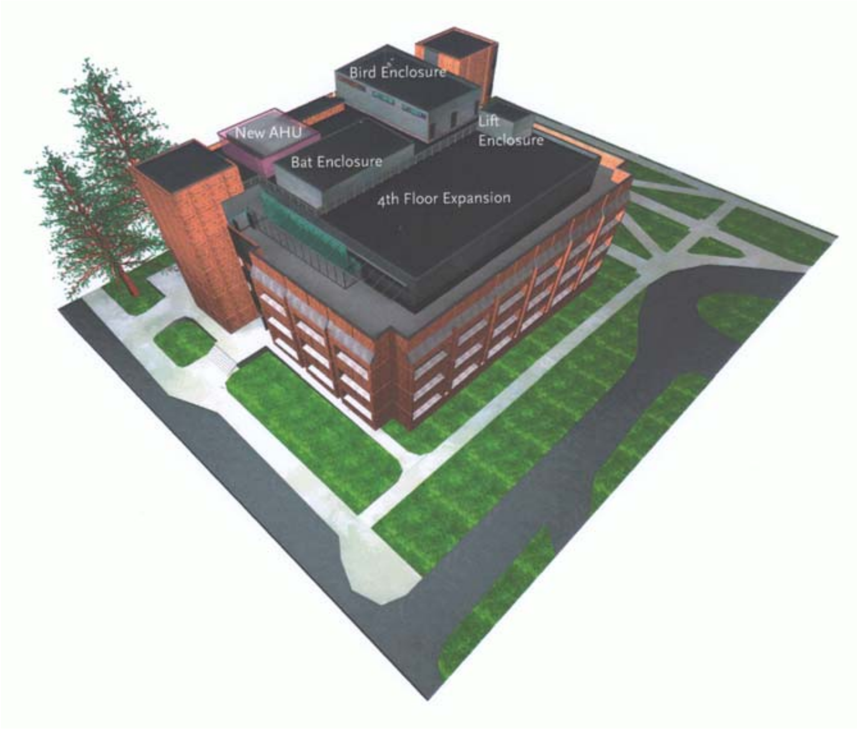
Mark Palmatier 206-221-2200
C&C Communications Infrastructure
Planning & Design

UNIVERSITY OF WASHINGTON

OFFICE OF THE VICE PROVOST
PLANNING AND BUDGETING
Capital and Space Planning

PROJECT PROPOSAL

GUTHRIE HALL RENOVATION



AUGUST 15, 2008

Institution			Agency Code
University of Washington			360
Project Title		**Category of Project**	**Project Number**
Guthrie Hall		RESEARCH	30000020
County	**City**		**Legislative District**
King	Seattle		043
Was this project included in a prior 10-year capital plan? If yes, when?			**Previous Project Number**
2007-09			20052851
Prepared By:	**Phone Number**		**Analysis Date:**
Colleen Pike	206-543-6277		8/15/2008

1. Project Schedule:

	Start Date	Complete Date
Predesign	7/2004	12/2004
Design	8/2009	8/2010
Bid	8/2010	09/2010
Construction/Occupancy	9/2010	09/2011

2. Problem Statement (short description of the project – the needs and the benefits)

The existing vivarium in Guthrie Hall is, for the most part, in very poor condition. Built in 1973 and remodeled occasionally, it includes facilities in scattered locations on three floors. Notes from the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) representatives' visits indicate that the guideline violations are numerous and egregious. Conditions include, but are not limited to the following: exposed wood, exposed cavities, nooks and crannies that may harbor vermin, porous ceiling tiles, peeling epoxy paint on the walls and floors, damaged floor base, systems without emergency power, less than ten air changes per hour. It is imperative that upgrades be made to the facility to insure the health and well being of the laboratory animals and continued AAALAC accreditation. In order to assess the cumulative requirements of all of the architectural renovations, rooms were surveyed on the basement, third and fourth floors.

3. History of the project or facility

The need to upgrade research facilities in Guthrie Hall and the possible availability of federal funds prompted the UW to pursue a National Institute of Health NCRR grant in 2005. Although the application was very favorably reviewed and the UW was anticipating a full award, the program was unexpectedly eliminated due to federal budget cuts. As part of that application a predesign was prepared. Therefore, the University of Washington is requesting $8,500,000 in the design and construction funding in the 2009-11 biennium to complete the renovation in one biennium. The predesign will be updated just before the start of design.

One of the main deficiencies in the building ventilation system is the nature by which exhaust is extracted from the center core spaces on the 1st, 2nd, and 3rd floors. At these locations, light troffers (slots built into the light fixtures) are used for both supply air and exhaust air. Air is supplied through some of the light fixtures via direct connected supply air ducts. Exhaust air leaves the room through other light fixture slots, but there is no direct duct connection. The air merely passes through the light fixture and winds up in the 'plenum' space above the ceiling. Air is then collected from the plenum above each room by an exhaust duct above the corridor.

4. University programs addressed or encompassed by the project

Guthrie Hall is occupied by the Department of Psychology. Psychology is among the top departments in undergraduate teaching at the UW. In 2006-2007, the Department had over 11,000 course enrollments and the largest number of undergraduates conducting faculty-supervised research at UW, with more than 800 students enrolled.

Among clinical psychology programs nationwide, the UW Clinical Psychology graduate program was tied in first place by *U.S. News and World Report* (2008). The Experimental Psychology graduate program was ranked third nationally in the most recent ratings of the National Research Council. Psychology ranks among the top three departments in the College of Arts & Sciences in externally-funded grant and contract expenditures ($10,500,000 in 2006-2007). Most of this funding is from the National Institutes of Health and the National Science Foundation.

The department's 1970s era building is completely inadequate for cutting edge neuroscience research and for most animal behavioral research as well. To do high quality and competitive behavioral neuroscience research requires a laboratory environment that is not only well designed and well equipped but has more space than typical neuroscience laboratories. This is because the department's animal researchers typically combine neuroscience methods (e.g. surgery, neuroanatomy; electrophysiology, immunohistochemistry) with behavioral testing and these procedures require separate lab rooms. Although other laboratory researchers might manage with a single large lab with several students or technicians working beside each other at a bench, behavioral research requires labs where animal testing can be isolated from environmental distractions. Additionally, different rooms may need to be dedicated to each behavioral testing set-up.

5. Integral to Achieving Statewide Policy Goals:

a. Identify the statewide goal or goals the project is expected to address, and describe how and the specific extent to which it will do so.

- **Economic development & innovation**
  Psychology faculty have made fundamental discoveries in basic and applied research, including:
  - Developing new programs for reducing alcohol and drug use in youth;
  - Using research with animals to uncover cellular processes of learning and memory;
  - Discovering unconscious mechanisms of prejudice;
  - Developing methods of reducing HIV transmission in high risk populations;
  - Making new discoveries about how the brain processes visual information;
  - Specifying genes involved in autism;
  - Developing new and effective treatments for post-traumatic stress disorder and suicide risk; and
  - Identifying brain regions involved in attention-deficit/hyperactivity disorder.

- **Increases the number of undergraduate degrees awarded**
- **Increases number of advanced degrees awarded**

  With its high academic rankings, high number of majors and growing research portfolio the Psychology Department ranks one of the best nationally. Investment in the animal research facilities is needed to maintain AAALAC accreditation and the research funding dependent of this facilities. The improvements would support additional faculty and expanded research funding, which, in turn, supports more graduate and undergraduate majors where demand for more access is high.

- **Promotes safety from violence for students, faculty and staff.**
  Research buildings are used 24/7. Building security systems, site lighting, exterior circulation, and landscaping will be designed to enhance occupant and visitor safety. Card key access will raise security especially for after hours building users. Wireless communications throughout the building will improve access to the UW's emergency notification system.

6. Integral to Institution's Planning and Goals:

a. Describe the proposed project's relationship and relative importance to the institution's

(a) Campus Master Plan,
The 2001 *Seattle Campus Master Plan* was approved by the Seattle City Council in December of 2002 and by the Board of Regents in January 2003. The proposed project is consistent with the Master Plan. A copy of the current Master Plan can be downloaded from: http://www.washington.edu/community/cmp_site/final_cmp.html

(b) Campus Facilities Plan,
Guthrie Hall is occupied by the Department of Psychology. These facilities are a critical part of the Department's research program. The proposed upgrade is part of a larger effort to bring all animal research facilities up to Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) standards. This is a top priority for an institution with the highest level of research funding for public universities.

(c) Strategic Plan.
The fundamental mission of the University of Washington is to provide education, research, and service at a nationally competitive level to the citizens of Washington State. The University of Washington's request for renovation funding for Guthrie Hall is consistent with the urgent need to address the deferred renewal and modernization of existing facilities, in order to support this mission. Renovation and modernization of the existing facilities is crucial to the University of Washington's ability to launch new initiatives and maintain competitive excellence in instruction, research, and recruitment. This strategic emphasis is reflected in the University of Washington's capital budget request for deferred renewal and modernization of aging facilities and infrastructure systems like Guthrie Hall.

- Attract a diverse and excellent student body and provide a rich learning experience.

  - Direct involvement in research is usually the most important part of any undergraduate or graduate student's experience at the University. Excellence in research and success in grant funding depends on high quality research space.
- Attract and retain outstanding and diverse faculty and staff to enhance educational quality, research, strength, and prominent leadership.
  - In 2008 the UW Clinical Psychology Program tied for first place in *US News & World Report*'s annual ranking to top academic programs. Investment in its animal research space is needed to improve the key facilities for neuroscience and animal behavior research.
- Maintain and build resources, infrastructure, and facilities to insure the highest level of integrity, compliance and stewardship.
  - The building will be designed for flexibility to cost effectively adapt to changing needs in the rapidly evolving field of research.
  - The building will meet at least Leadership in Energy and Environmental Design (LEED) Silver requirements
  - Life cycle cost analysis will be used throughout the design process.

b. Identify whether the proposed project is the institution's first, second, or third priority for state funding among all of the projects the institution is proposing in 2009-11 biennium.

The Guthrie Hall Renovation is the fifteenth priority out of fifteen requested in the 2009-11 University of Washington's State Capital Budget Request, and our fourth priority in the Research category.

7. Impact on Economic Development:

a. Identify any specific state, regional, or local economic development plans associated with the project, and describe how it would support them.

As one of the world's leading research institutions, the UW delivers spectacular returns to its primary stakeholders — the citizens of Washington State. UW technologies and innovations have helped Washington become a center for some of the most promising sectors of the economy -- biotechnology, medical devices and imaging, software and information technology. Over 200 new companies have been based around UW research advances. Improvements in Guthrie Hall's animal research facilities will continues this tradition of cutting-edge research that contributes substantial economic benefits to Washington State.

- By combining teaching and research, the UW offers students exceptional hands-on learning experiences that prepare them to excel in the knowledge-based economy.
- UW research-related spending supports over 42,000 jobs statewide.*
- Demonstrate that federal or private funding is likely to be available to support the research that would be conducted in the facility.
- The UW received over $1 billion in research funding during FY06.
- Ninety percent of this money comes from outside Washington, and most of it will be spent within the state.
- UW R&D expenditures generated over $2 billion in business activity statewide during FY06.*

*based on UW R&D expenditures and economic multipliers provided by the Washington State Office of Financial Management.

b. Summarize and quantify the expected economic benefits of the project, and provide selected supporting documentation in a clearly referenced appendix.

The direct value of construction spending is expected to generate 85 jobs directly and another 76 jobs indirectly. This estimate was provided by the UW Capital Project Office and was based on state economic information assembled in response to the 2003 Gardner Evans Bill.

c. Demonstrate that federal or private funding is likely to be available to support the research that would be conducted in the facility.

The economic benefits over time are substantial. The research grants using the animal facilities in Guthrie currently generate over $1,500,000 annually. The upgrades and expanded facility are designed to support an additional 3-4 faculty. Based on average grant activity per faculty, this would generate an additional $500,000 to $700,000 annually. Grants with a molecular genetics focus will be larger.

Additional benefits over time are generated by research patent royalties, and new spin off companies created as a direct result of research discoveries in the building. These last benefits are difficult to quantify with a specific project. This potential is better understood from data gathered by the Office of Research for the University as a whole.

8. Impact on Innovation:

a. Explain how the research activities proposed for the project will advance areas of existing preeminence, or position the institution for preeminence in a field or area. Evidence of existing or potential research preeminence could include, but is not limited to, funding history, faculty qualifications, publications, patents, business spin-offs, etc.

Clearly, the success of this proposal would dramatically improve the laboratory environment of the department's animal researchers. In addition to rectifying serious problems for existing researchers, it would enable the department to fill at least some of the several badly needed open faculty positions. Moreover, it would permit department faculty to pursue new and important scientific initiatives. For example, the University of Washington has been very much at the center of the recent explosion in research on transgenic animals. A recent application to the National Institute of Drug Abuse to establish a center for the study of molecular mechanisms of drug abuse using transgenic animals has just been funded. The director of the behavior core in the psychology department is charged with behavioral phenotyping transgenic mice. However, the lack of appropriate space in Guthrie means that a laboratory dedicated to behavioral phenotyping cannot be established here. An improvement in the quality and quantity of animal laboratories in Guthrie would open the possibility of pursuing new initiatives like these.

9. Availability of Research Space:

a. Describe the extent to which there is sufficient space (square footage) in existing campus facilities to conduct the proposed research.

If modern research using animal models is going to thrive in the Psychology department, the space crisis in Guthrie will have to be solved. The space crisis for animal researchers in Guthrie cannot be overestimated. Although the expanding space needs of other researchers in psychology have been met by moving into other on-campus and off-campus buildings, even this non-optimal solution is not available to departmental researchers using animals. Animal research must be done in Guthrie. The quality and quantity of animal research space is an absolutely critical issue in recruitment and retention of faculty in the departmental areas of Behavioral Neuroscience and Animal Behavior. Many potential faculty recruits have chosen to reject positions within our department on the basis of the inadequacy of the research space in Guthrie.

10. Adequacy of Research Space:

a. Describe how and the extents to which existing campus facilities are inadequate to conduct the proposed research.

The Department of Psychology was successful in recruiting two faculty members recently who subsequently left due in large part to inadequate research space. Their new labs at their new institutions are several times larger, as well as more up-to-date. Finally, the department has been unable to fill several recent vacancies in the Behavioral Neuroscience area simply because there is no available research space in Guthrie. In addition to the four open positions just mentioned, the department will shortly have a fifth vacancy in Animal Behavior due to retirement. Because research space had already been utilized for the newest hire, the department will then have five vacancies in the biological area, yet only two, small and inadequate labs available for new hires.

11. Availability of Instructional Space:

a. If the proposed project includes classrooms or instructional lab space, identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2008 on the proposed project's campus.

b. 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.

(Note: Fall 2008 utilization should be estimated by taking Fall 2007 actual enrollment and increasing it by the percentage by which academic year 2008-09 state supported enrollment is budgeted to exceed academic year 2008 budgeted enrollment.)

The Seattle campus met or exceeded the HECB utilization standards for both classrooms and class laboratories for Autumn Quarter 2007. For classrooms, the use factor was 22 which is equivalent to an average of 37 hours of instruction each week. More than 482,000 weekly student contact hours of classroom instruction were conducted in Autumn Quarter 2007. For class laboratories, the use factor was 21 which exceeds the HECB standard of 16 and is equivalent to an average of 26 hours of instruction each week.

Because Autumn Quarter 2008 enrollment will increase and no additional classrooms or class laboratories will be added, the Seattle campus will exceed the HECB use factors for both of these types of space, using classroom seats for more than an average of 37 hours each week and class laboratories stations more than an average of 26 hours each week. Attached is the University of Washington utilization report.

12. Reasonableness of Cost:

Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with similar projects. Comparable projects can be both external and internal to the Institution, but there is a preference for a geographic dispersion of comparable projects. For each comparison, identify why the selected project is comparable, the cost of comparable facilities at construction, and the cost inflator(s) used (specify comparison base year and inflator applied and note any adjustments made for geographical location, as well as the basis for those adjustments). Also, describe the construction methodology that will be used for the proposed project.

The first two projects are geographically located in our region, and on the University of Washington's campus. The projects listed represent a comparable analysis of the scope of work, based on office, laboratory and classroom space. Baker Institute at Cornell University located in Ithaca, NY has a location modifier of 110.6%. Sales tax was added to the construction costs. This project consists of 58% wet lab, 31% dry lab and 11% public areas, covering three floors with two laboratory floors with five laboratories per floor with support, office and meeting spaces. A lower floor houses dog kennel space with adjacent laboratory support, mechanical and electrical rooms. A new lecture hall is also included. The Fourth Floor at Thomas Jefferson University was decreased by 91.1% due to location factors. Philadelphia's location modifier is 114.4 vs. Seattle at 104.2. This project is a partial renovation of a wet lab research space. Keith-Wiess Geological Lab consists of 23% wet labs, 10% dry labs, 12 % shared facilities, 44% offices and remaining public spaces. This renovation consisted of a three story facility providing state of the art laboratory space on the third floor. All new mechanical, electrical and plumbing was included. The location modifier for this project is 118.8% (87.7 vs. 104.2). The Taubman Health Care Center is an interior renovation that consists of 90% office and 10% conference area, making this less expensive than a typical lab build out. The project was for a complete demo and build-out completed in three phases. Extensive fire alarm and fire protection upgrades were completed. Sales taxes were added to the construction portion. The location modifier is inconsequential (3%) due to Ann Arbors location factor is 101.2 vs. 104.2 for Seattle. These location factors are based on RS Means Facilities Construction Cost Data 2006.

Escalation is included at a compounded rate per Engineering News Record (ENR) Historical Building Costs Indices for Seattle, as well as market conditions experienced in our local market.

Comparable Facility Name	Location	Gross SF	Total Construction Cost	Cost per SF	Construction End Date	Inflation Adjuster Applied	Adjusted Cost per SF
Guthrie Hall Renovations	University of Washington Seattle, WA	12,084	$8,500,000	$703.41	Jul 2012	0%	$703.41
Sharona Gordon Lab	University of Washington Seattle, WA	2,300	$1,050,299	$456.65	May 2007	33%	$607.35
Johnson Hall	University of Washington Seattle, WA	121,000	$53,013,000	$438.12	Oct 2005	51.8%	$665.07
Baker Institute for Animal Health	Cornell University Ithaca, NY	42,500	$14,855,272	$349.54	Dec 2002	84.7%	$645.60

4th Floor College Building	Thomas Jefferson University Philadelphia, PA	11,216	$5,181,843	$462.00	Oct 2003	78.6%	$825.13
Keith-Wiess Geological Laboratories	Rice University Houston, TX	14,843	$5,329,315	$359.05	Jul 2002	87.1%	$672.78

This project is slated to go through the public works design-bid-build delivery method due to the size. Some advantages would be had if the GCCM procurement method was available because of the work that needs to be completed around existing conditions and staff. Since this project is not a complete gut and renovation of Guthrie, extensive coordination will need to take place to guarantee the existing staff is not disrupted.

13. Contribution of Other Funding Sources:

a. Identify the source and amount of capital planning and construction costs that will be covered by sources other than state tax or building fund appropriations. *(Provide supporting documentation demonstrating the likelihood that such non-state revenues are likely to be available, and any restrictions on their use.)*

No other funding sources have been identified.

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360 - University of Washington
Capital Project Request

2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: **30000020**
Project Title: **Guthrie Hall Renovation**

Description

Starting Fiscal Year: 2010
Project Class: Preservation
Agency Priority: 23

Project Summary

In 2009-2011, the University of Washington is requesting state funjding of $8,500,000 for the renovation and upgrade of laboratories in Guthrie Hall. Existing spaces in Guthrie Hall require renovation and upgrading to meet current codes and standards for research and instructional curriculum. The current facilities are in need of improvements and upgrades to provide laboratory areas and conditions suitable for the high level of studies in behavioral and biomedical research. The project will expand and modernize aging animal facilities that are rapidly becoming substandard and inadequate. Guthrie Hall was constructed in 1974 and has incurred no major improvements to the facility's mechanical and electrical systems.

Project Description

In 2009-2011, the University of Washington is requesting state funding of $8,500,000 for the renovation and upgrade of laboratories in Guthrie Hall. This project will renovate and upgrade existing areas for the animal and laboratory space on the 3rd and 4th floors of Guthrie Hall. This project will modernize and expand current animal facilities that are rapidly becoming substandard and inadequate. The changing nature of behavioral and biomedical research, a growing need for space and the limitations of the current air handling and temperature control systems all combine to make this request a high priority. Improvements in these laboratory and animal research facilities will contribute greatly to the recruitment and retention of research faculty and contribute to maintaining the UW's rank as the number one public research institution in the United States in terms of federal grant receipts. This project will address a long standing problem and deficiency in the facility's heating, ventilation & cooling (HVAC) system. The current HVAC system was installed almost 30 years ago and was not designed for the current needs or standards for animal research laboratory or housing conditions. Animal facility management and care is a very highly supervised program that helps ensure proper handling and quality of the research animals.

Location

City: Seattle **County:** King **Legislative District:** 043

Project Type

Remodel/Renovate/Modernize (Major Projects)

Growth Management impacts

N/A

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Current Biennium	2009-11 Fiscal Period Reapprops	New Approps
057-1	State Bldg Constr-State	8,500,000				8,500,000
	Total	**8,500,000**	**0**	**0**	**0**	**8,500,000**

		Future Fiscal Periods 2011-13	2013-15	2015-17	2017-19
057-1	State Bldg Constr-State				
	Total	**0**	**0**	**0**	**0**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000020
Project Title: Guthrie Hall Renovation

Schedule and Statistics

	Start Date	End Date
Predesign	07/01/2004	12/01/2004
Design	8/1/2009	9/1/2010
Construction	9/1/2010	9/1/2011

	Total
Gross Square Feet:	74,241
Usable Square Feet:	0
Efficiency:	0.0%
Escalated MACC Cost per Sq. Ft.:	67
Construction Type:	Laboratories (Research)
Is this a remodel?	Yes
A/E Fee Class:	A
A/E Fee Percentage:	12.08%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		155,250	1.8%
Construction Documents		399,305	4.7%
Extra Services		326,895	3.9%
Other Services		271,202	3.2%
Design Services Contingency		118,786	1.4%
Consultant Services Total		**1,271,438**	**15.0%**
Maximum Allowable Construction Cost(MACC)	**4,965,499**		
Site work		0	0.0%
Related Project Costs		0	0.0%
Facility Construction		4,965,499	58.4%
GCCM Risk Contingency		0	0.0%
GCCM or Design Build Costs		0	0.0%
Construction Contingencies		744,825	8.8%
Non Taxable Items		0	0.0%
Sales Tax		513,929	6.1%
Construction Contracts Total		**6,224,253**	**73.2%**
Equipment			
Equipment		273,250	3.2%
Non Taxable Items		0	0.0%
Sales Tax		24,593	0.3%
Equipment Total		**297,843**	**3.5%**

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360 - University of Washington
Capital Project Request
2009-11 Biennium

Version: 01 2009-11, Draft

Report Number: CBS002
Date Run: 8/13/2008 4:51PM

Project Number: 30000020
Project Title: Guthrie Hall Renovation

Cost Summary

	Escalated Cost	% of Project
Art Work Total	24,827	0.3%
Other Costs Total	54,174	0.6%
Project Management Total	627,465	7.4%
Grand Total Escalated Costs	8,500,000	
Rounded Grand Total Escalated Costs	8,500,000	

Operating Impacts

No Operating Impact

Narrative

Renovation of existing facility will not have operating impact

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360 - University of Washington
Cost Estimate Summary
2009-11 Biennium

Cost Estimate Number: 21
Cost Estimate Title: Guthrie Hall Renovation 09-11
Report Number: CBS003
Date Run: 8/13/2008 8:58AM

Version: 01 2009-11, Draft
Agency Preferred: Yes
Project Number: 30000020
Project Title: Guthrie Hall Renovation
Project Phase Title:

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.:	74,241
Usable Sq. Ft.:	0
Space Efficiency:	0%
MACC Cost per Sq. Ft.:	61
Escalated MACC Cost per Sq. Ft.:	67
Remodel?	Yes
Construction Type:	Laboratories (Research)
A/E Fee Class:	A
A/E Fee Percentage:	12.08%

Schedule

	Start Date	End Date
Predesign:	07-2004	12-2004
Design:	08-2009	09-2010
Construction:	09-2010	09-2011
Duration of Construction (Months):	12	

Cost Summary Escalated

Acquisition Costs Total			**0**
Pre-Schematic Design Services		155,250	
Construction Documents		399,305	
Extra Services		326,895	
Other Services		271,202	
Design Services Contingency		118,786	
Consultant Services Total			**1,271,438**
Site work		0	
Related Project Costs		0	
Facility Construction		4,965,499	
Construction Contingencies		744,825	
Non Taxable Items		0	
Sales Tax		513,929	
Construction Contracts Total			**6,224,253**
Maximum Allowable Construction Cost(MACC)	**4,965,499**		
Equipment		273,250	
Non Taxable Items		0	
Sales Tax		24,593	
Equipment Total			**297,843**
Art Work Total			**24,827**
Other Costs Total			**54,174**
Project Management Total			**627,465**
Grand Total Escalated Costs			**8,500,000**
Rounded Grand Total Escalated Costs			**8,500,000**

Additional Details

Alternative Public Works Project: No

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360 - University of Washington

Cost Estimate Summary

2009-11 Biennium

Cost Estimate Number:	21	**Report Number:**	CBS003
Cost Estimate Title:	Guthrie Hall Renovation 09-11	**Date Run:**	8/13/2008 8:58AM
Version:	01 2009-11, Draft	**Agency Preferred:**	Yes
Project Number:	30000020		
Project Title:	Guthrie Hall Renovation		
Project Phase Title:			

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Additional Details

State Construction Inflation Rate:	3.50%
Base Month and Year:	08-2008
Project Administration By:	AGY
Project Admin Impact to GA that is NOT Included in Project Total:	$0

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Cost Estimate Detail
2009-11 Biennium

Cost Estimate Number: 21
Cost Estimate Title: Guthrie Hall Renovation 09-11
Analysis Date: July 22, 2008

Detail Title: Guthrie Hall Renovation
Project Number: 30000020
Project Title: Guthrie Hall Renovation
Project Phase Title:
Location: Seattle

Contact Info **Contact Name:** Amy Engel **Contact Number:** 206.616.4321

Statistics

Gross Sq. Ft.: 74,241
Usable Sq. Ft.:
Rentable Sq. Ft.:
Space Efficiency:
Escalated MACC Cost per Sq. Ft.: 67
Escalated Cost per S. F. Explanation

Construction Type: Laboratories (Research)
Remodel? Yes
A/E Fee Class: A
A/E Fee Percentage: 12.08%
Contingency Rate: 10.00%
Contingency Explanation

Management Reserve: 5.00%
Projected Life of Asset (Years):
Location Used for Tax Rate: Seattle
Tax Rate: 9.00%
Art Requirement Applies: Yes
Project Administration by: AGY
Higher Education Institution?: Yes
Alternative Public Works?: No

Project Schedule	Start Date	End Date
Predesign:	07-2004	12-2004
Design:	08-2009	09-2010
Construction:	09-2010	09-2011
Duration of Construction (Months):	12	
State Construction Inflation Rate:	3.50%	
Base Month and Year:	8-2008	

Project Cost Summary

MACC:	$ 4,543,000
MACC (Escalated):	$ 4,965,499
Current Project Total:	$ 7,865,339
Rounded Current Project Total:	$ 7,865,000
Escalated Project Total:	$ 8,500,000
Rounded Escalated Project Total:	$ 8,500,000

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
CONSULTANT SERVICES				
Pre-Schematic Design Services				
Programming/Site Analysis	50,000			
Predesign Study	100,000			
SubTotal: Pre-Schematic Design Services		**150,000**	1.0350	**155,250**
Construction Documents				
A/E Basic Design Services	378,668			
SubTotal: Construction Documents		**378,668**	1.0545	**399,305**
Extra Services				
Civil Design (Above Basic Services)	5,000			
Geotechnical Investigation	15,000			
Commissioning (Systems Check)	30,000			
Site Survey	20,000			
Testing	40,000			
Leadership Energy & Environment Design List(LEED)	60,000			
Voice/Data Consultant	15,000			
Landscape Consultant	30,000			
Haz Mat Consultant	50,000			
Acoustical Consultant	20,000			
Graphics	5,000			
Interior Design	20,000			
SubTotal: Extra Services		**310,000**	1.0545	**326,895**
Other Services				
Bid/Construction/Closeout	170,126			
HVAC Balancing	30,000			
Staffing	40,000			
As-builts	8,000			
SubTotal: Other Services		**248,126**	1.0930	**271,202**
Design Services Contingency				
Design Services Contingency	108,679			
SubTotal: Design Services Contingency		**108,679**	1.0930	**118,786**
Total: Consultant Services		**1,195,473**	1.0635	**1,271,438**
CONSTRUCTION CONTRACTS				
Facility Construction				
Complete Facilities	4,100,000			
Added Escalation over 3.5%	443,000			
SubTotal: Facility Construction		**4,543,000**	1.0930	**4,965,499**
Maximum Allowable Construction Cost (MACC)		**4,543,000**	1.0900	**4,965,499**
Construction Contingencies				
Management Reserve	227,150			
Allowance for Change Orders	454,300			
SubTotal: Construction Contingencies		**681,450**	1.0930	**744,825**
Sales Tax		**470,201**	1.0930	**513,929**
Total: Construction Contracts		**5,694,651**	1.0930	**6,224,253**
EQUIPMENT				
E10 - Equipment	50,000			
E20 - Furnishings	200,000			
SubTotal:		**250,000**	1.0930	**273,250**

ITEM	Base Amount	Sub Total	Escalation Factor	Escalated Cost
EQUIPMENT				
Sales Tax		**22,500**	1.0930	**24,593**
Total: Equipment		**272,500**	1.0930	**297,843**
ART WORK				
Higher Ed Artwork	24,770			
Total: Art Work		**24,827**	1.0000	**24,827**
OTHER COSTS				
Permitting/Insurance	40,000			
Document Reproduction	10,423			
Total: Other Costs		**50,423**	1.0744	**54,174**
PROJECT MANAGEMENT				
Agency Project Management	612,462		-	
Preactive PM Fees	15,003			
Total: Project Management		**627,465**	1.0000	**627,465**

OFM

360 - University of Washington
Cost Estimate Summary and Detail
2009-11 Biennium

*

Cost Estimate Number: 21
Cost Estimate Title: Guthrie Hall Renovation 09-11

Report Number: CBS003
Date Run: 8/13/2008 8:58AM

Parameter	**Entered As**	**Interpreted As**
Associated or Unassociated	Associated	Associated
Biennium	2009-11	2009-11
Agency	360	360
Version	01-A	01-A
Project Classification	*	All Project Classifications
Capital Project Number	30000020	30000020
Cost Estimate Number	21	21
Sort Order	Number	Number
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

University of Washington Utilization Report
2009-11 Capital Budget Request
Autumn Quarter, 2007 - August 14, 2008

Contact Hours

	Student Contact Hours - Credit Instruction	Actual FTE - Credit Instruction	Average Contact Hours/FTE	Actual State Funded FTE	2007-08 State Budgeted FTE	2008-09 State Budgeted FTE	Increase in Budgeted FTE from 2007-08 to 2008-09
Seattle Classrooms	482,081	40,171	12.00	35,406	33,782	34,127	345
Seattle Class Labs	87,866	40,171	2.19	35,406			
Bothell Classrooms	21,105	1,589	13.28	1,563	1,760	2,015	255
Bothell Class Labs	N/A	1,589	N/A	1,563			
Tacoma Classrooms	32,112	2,204	14.57	2,167	2,109	2,384	275
Tacoma Class Labs	1,037	2,204	0.47	2,167			

Classrooms

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	21,929	22	12.00	40,201	22	37	37
Bothell	962	22	13.28	1,593	22	37	37
Tacoma	1,309	22	14.57	1,977	25	41	41

Class Labs

	Stations	HECB Use Standard	Contact Hours per FTE Student	FTE Enrollment Capacity	Autumn Quarter 2007 Actual Use Factor	Average Weekly Hours of Instruction	Autumn 2008 Projected Average Weekly Hours of Instruction
Seattle	4,229	16	2.19	30,935	21	26	26
Bothell	206	16	N/A	N/A	N/A	N/A	N/A
Tacoma	134	16	0.47	4,557	8	10	10