Legislative Campus Modernization

PREDESIGN REPORT

STATE OF WASHINGTON
DEPARTMENT OF ENTERPRISE SERVICES
PROJECT NO. 18-527

FEBRUARY 05, 2021

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MITHŪN

CLIENT

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Representative Pat Sullivan, Majority Leader
Representative J.T. Wilcox, Minority Leader
Representative Monica Jurado Stonier, Majority Floor Leader
Representative Jacqueline Maycumber, Minority Floor Leader
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Representative Joel Kretz
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Representative Richard DeBolt, Ranking Minority, Capital Budget Committee
Representative Lisa Callan, Vice Chair, Capital Budget Committee
Representative Mike Steele, Assistant Ranking Minority, Capital Budget Committee
Kelci Karl-Robinson, Capital Budget Coordinator
Bernard Dean, Chief Clerk
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Sean Hartsock, Director of House Security

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Senator Marko Liias, Majority Floor Leader
Senator Schoesler, Republican Leader
Senator Randi Becker, Ranking Member
Senator Marko Liias
Senator Mark Schoesler
Senator Manka Dhingra
Senator John Braun
Senator Rebecca Saldaña
Senator David Frockt, Vice Chair, Capital Lead, Ways & Means Committee
Senator Jim Honeyford, Assistant Ranking Member, Ways & Means Committee
Richard Ramsey, Capital Budget Coordinator
Sarian Scott, Senior Fiscal Analyst, Capital
Brad Hendrickson, Secretary of the Senate
Sarah Bannister, Deputy Secretary of the Senate
Paul Campos, Staff Coordinator, Republican Caucus
Andy Staubitz, Senate Security

LEGISLATIVE SUPPORT SERVICES

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DEPARTMENT OF ENTERPRISE SERVICES

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Ann Lason, Director of Government Relations
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Kevin Dragon, Program Manager
Judy Lorenzo, Transportation Demand Manager
Matt Jones, Physical Security Manager
Michael Van Gelder, Planner
Ron Major, Resource Conservation Manager
Brent Chapman, Grounds Manager

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Contents

Executive Summary

Introduction

The Newhouse building is beyond its useful life. It has significant health, life safety, operational and functional deficiencies. Major building systems such as building envelope, roof, potable water, electrical and sewer systems are failing. Failure in any one of these systems will make the building uninhabitable. This will likely occur when the building is at full occupancy such as during legislative session.

The Pritchard building is underutilized, not fit for modern needs and has significant health, life safety, operational and functional deficiencies. The 55,485 square foot building was completed in 1958 and for the Washington State Library and is listed on the National Register of Historic Places. It was sited to integrate with the historic Legislative, Cherberg and O'Brien buildings. The book stacks, which compose over half the building, do not have tall enough floor to floor heights to be converted into modern office uses. Its proximity to a steep slope introduce safety concerns during a seismic event and present geotechnical challenges when attempting to address this.

ESSB 6248 SECTION 1027

The goals for this predesign are defined by the provisions of ESSB 6248 Section 1027 Chapter 356, Laws of 2020.

- Newhouse Replacement: Program space for Senate offices and support functions, member offices similar in size to the Cherberg building, consider an additional floor for legislative agency support and a building facade similar to the American neoclassical style of the existing legislative buildings on the Capitol Campus.
- Pritchard Renovation or Replacement: Program space for House of Representative offices and support functions, space for legislative agencies, additional space as required.
- O'Brien renovation: Remodel the third and fourth floors of the O'Brien building to enlarge existing member offices and reduce congestion.
- Other: Maintain or increase parking capacity of campus, meet net zero ready energy standards and an EUI of less than 35, provide temporary office space during construction

Proposed Solution

Both the existing Newhouse building and historic Pritchard building will be replaced to provide safe buildings that meet contemporary campus needs.

- Accommodate program currently in Newhouse
- Alleviate crowding of House offices in O'Brien
- Provide central locations and functional space for legislative agencies that are currently in the Pritchard building (Code Reviser, LEG-TECH), and off-campus (Production & Design) to increase efficiency and to support both the Senate and the House.

Problem Statement

A series of needs have been identified based on discussions with members and staff and observation of the existing conditions:

- New space is required for existing Senate offices and support spaces in the Newhouse building that has been designated for replacement.
- Additional space is required for House offices and support spaces due to crowding in the O'Brien building.
- New space is required for the Code Reviser, Legislative Support Services (LSS), and LEG-TECH spaces currently in the Pritchard building that has been designated for replacement.

— New space is required for LSS Administration displaced from the Legislative Building, which was identified to accommodate the Press due to demolition of the existing Press Houses on Opportunity Site 6.

— New space is required for the Production and Design services that are currently off-campus to relocate this joint legislative service on-campus and increase efficiency of their services.

SENATE

The 2017 State Capitol Development Study identifies the Newhouse Building's significant life safety, operational and functional deficiencies. Although it is eligible for designation on the National Register of Historic Buildings, the 25,000 gross square foot structure was built as a temporary facility in 1934 and should be replaced.

HOUSE

The House occupies the O'Brien Building that was constructed in 1940 and comprehensively renovated in 2014. Most of the member offices are smaller than the average size of House offices in the Legislative Building and the average size of Senate member offices in the Legislative, Cherberg, and Newhouse buildings. The arrangement of circulation and legislative assistant workstations leads to crowding when constituents visit their representatives during session, compromising access, safety, security and privacy. There is demand for hearing space, caucus rooms, space for interns and additional session staff, and storage space. Tenant improvements on the third and fourth floor of O'Brien and new space in a Pritchard replacement building would resolve these issues.

LEGISLATIVE AGENCIES

The Code Reviser, Legislative Support Services (LSS) and the LEG-TECH/Legislative Services Center (LSC) occupy the Pritchard Building. They provide essential services to the legislature, especially during session. The current space in the Pritchard building is not suitable for these functions.

Analysis of Alternatives

ESSB 6248 Section 1027 Chapter 356, Laws of 2020 outlines that the Legislative Campus Modernization Predesign Study explore an Irv Newhouse building replacement on Opportunity Site Six, and to consider an option with an additional floor. It also requests studying two options for approaching the Pritchard building: a renovation or a replacement. The chosen alternative will also include renovation of the third and fourth floors of the John L. O'Brien building to right-size existing legislative member offices.

Option A assumes a renovation and expansion of the existing Pritchard Building. A.1 explores a three-story replacement of Newhouse and A.2 explores a four-story replacement. Option B assesses a full replacement of the Pritchard building. B.1 explores a three-story replacement of Newhouse and B.2 explored a four-story replacement.

Detailed Analysis of Preferred Alternative

Due to its ability to fully address program requirements and meet health and life safety requirements, Option B.2 was selected as the preferred alternative.

SPACE NEEDS

Reference Figure 01 for the Space Allocation Summary, comparing the existing net area to the proposed.

BUILDING CONFIGURATION

Both the Newhouse and Pritchard replacement buildings feature security elements that align with current industry standards. Features include a secure entry and locating the security station and offices are near the front door to monitor activity. The overall heights of the buildings do not exceed that of the nearby Cherberg building.

Newhouse Replacement Building

The preferred alternative proposes a four-story building on the Newhouse site. Its location on the northwest corner of the site places it adjacent to the Cherberg building and gives it a presence on Sid Snyder Ave SW, a major circulation path on the Capitol Campus. The first floor contains space for Production and Design, LSS administration services (relocated from the Legislative building), meeting space, and Senate security. The second floor includes the page school, additional Senate support and Republican caucus offices. The third and fourth floors are dedicated to Senate member and caucus offices.

[FIGURE 01] EXISTING AND PROPOSED SPACE ALLOCATION SUMMARY

	EXISTING (NSF)	PROPOSED (NSF)	NET CHANGE (NSF)
Newhouse Replacement	24,214	39,007	14,793
Senate	8,655	14,640	5,985
Republican Caucus	5,541	7,520	1,979
Joint Senate/House Page School	980	1,660	680
Production & Design	6,780	5,577	-1,203
LSS (From Leg Building)	1,576	1,240	-336
Leg Ethics (From Leg Building)	190	150	-40
Shared	492	8,220	7,728
Pritchard Replacement	21,997	43,540	21,543
House of Representatives	0 (See O'Brien)	15,345	15,345
LEG-TECH (LSC)	6,421	6,705	285
LSS Photo	1,112	940	-172
Code Reviser	8,821	9,480	659
Shared	0	3,160	3,160
Public Space	5,498	7,760	2,262
Third House	145	150	5
O'Brien Renovation (House of Rep.)	13,837	9,009	-4,828
Press (relocated to Leg. Building)	1,994	1,394	-600
Total	**62,042**	**92,950**	**30,908**

Pritchard Replacement Building

The proposed building on the Pritchard site has three floors. Its front door maintains the axis with the Legislative building. The upper floors cantilever over the hill with a truss structure. The ground floor includes LSS support, a hearing room, café, and lobby. The second floor contains legislative agencies and the third floor is dedicated to House member offices.

MAJOR BUILDING COMPONENTS

High Performance Building

ESSB 6248 Section 1027 Chapter 356, Laws of 2020 defines specific requirements for this project to be net zero-ready and have an energy use intensity (EUI) of no greater than 35. These targets will reduce energy consumption by 20 to 50 percent compared with the code required baseline and reduce carbon emissions. In order to achieve net zero energy goals, a rooftop Photovoltaic installation is used to offset the energy use of the building.

Structure and Materials

The proviso requires that the Newhouse replacement be an American Neoclassical façade. However, after discussions stemming from consideration of the Master Plan and Secretary of the Interior guidelines in the context of Washington's Capitol Campus, the project budget includes money to be applied towards enhanced depth and detailing of the facades of the replacement Newhouse and Pritchard buildings to appropriately fit into the vocabulary of the historic buildings without replicating them exactly. The facade for both the Newhouse and the Pritchard buildings, while not an exact copy of Cherberg's stone exterior, will include a similar neoclassical base-middle-top expression across each building. There will be depth and relief in the facade that are common in American neoclassical designs, which can be incorporated using modern construction methods and materials. The building character will not rely on specific classical elements such as columns, pediments, and capitals and will use precast concrete in place of sandstone.

PARKING

The LCM project will reduce the number of parking stalls in the Southwest Campus area from 350 to 293 stalls, creating a potential net deficit of 57 stalls. In the foreseeable future, the LCM project is expected to accommodate the same number of legislators and staff who already work in this area of the campus.

The proviso requests maintaining the same number of stalls as the existing at a minimum. However, the COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are currently working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in state agency employee parking demand would open up parking capacity on the southeast campus to use during the peak times when the legislature is in session. Given that, the Project Executive Team (PET) decided that no additional parking beyond the proposed 293 stalls would be included in the preferred alternative solution. The PET further assumed that an additional parking structure may be considered at a later date.

PROJECT DELIVERY METHOD

General Contractor /Construction Manager (GC/CM) project delivery method is recommended for Newhouse, Pritchard and O'Brien to meet the projects priorities. Due to the simplicity and budget of the temporary facilities, they can be procured by Design Bid Build (DBB) delivery method. GC/CM is a project delivery method in which the agency contracts separately with a designer and a construction manager. The significant characteristic of this delivery method is a contract between an agency and a construction manager who will be at risk for the final cost and time of construction. Construction industry/contractor input into the design and constructability of complex and innovative project on an occupied campus are the major reasons an agency would select the GC/CM method. Unlike DBB, GC/CM brings the builder into the design process at a stage where definitive input can have a positive impact on the project.

SCHEDULE

The estimated construction completion dates are as follows:

— Newhouse Replacement - June 2025

— Pritchard Replacement -August 2027

— O'Brien Remodel - June 2028

PROJECT BUDGET OF PREFERRED ALTERNATIVE

The overall project cost will be made up of construction cost, soft costs, and temporary facility/operations cost. Reference the project cost summary table in Figure 02 below.

FUNDING

ESSB 6248, Section 1027, Chapter 396, Laws of 2020, appropriated $10M for the 2019-21 biennium and identified $89M for future biennia. The total project costs for all three projects surpasses the estimated total cost of $100M.

[FIGURE 02] PROJECT COST SUMMARY

	PROJECT COST								
	Acquis.	Consultant Services	Construct. Contracts	Equip.	Artwork	Project Mngmt	Other	Total	***Total Escalated
*Newhouse Replacement	$534,330	$7,153,301	$57,901,880	$1,642,514	$370,946	$222,000	$1,525,590	$69,350,562	**$74,560,000**
Pritchard Replacement	$0	$7,776,781	$69,751,889	$1,535,478	$461,388	$243,000	$1,480,869	$81,249,405	**$92,739,000**
O'Brien Renovation	$0	$1,333,246	$3,576,350	$570,070	$34,305	$17,500	$279,372	$5,810,844	**$6,895,000**
**Temporary Facilities	$0	$495,545	$4,306,798	$0	$0	$17,500	$554,228	$5,374,071	**$5,709,000**
*****Total**									**$179,903,000**

*The Newhouse Replacement project costs include global LCM project costs including, but not limited to, street vacation costs,Press House demolition and parking lot development, Leg Building TI for Press.

**Temporary facilities includes global LCM costs

***Rounded to nearest $1000

Problem Statement

ESSB 6248 Section 1027

The goals for this predesign are defined by the provisions of ESSB 6248 Section 1027 Chapter 356, Laws of 2020.

For the Newhouse building replacement, the predesign must include:

i. Necessary program space required to support senate offices and support functions;

ii. A building facade similar to the American neoclassical style of existing legislative buildings on Capitol Campus;

iii. Member offices of similar size as member offices in the John A. Cherberg building;

iv. Design and construction of a high performance building that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

v. Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

vi. Temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the building. Maximizing efficient use of modular space with Pritchard renovation or replacement must be considered;

vii. Demolition of the buildings, not including the visitor center, located on opportunity site six. Demolition costs must not exceed six hundred thousand dollars

In regards to the Pritchard building renovation or replacement and O'Brien building renovation, the predesign must address the following:

i. The necessary program space required to support house of representatives offices and support functions;

ii. Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

iii. Design and construction that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

iv. The detail and cost of temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the buildings for state employed occupants of any impacted building. Maximizing efficient use of modular space with the Newhouse replacement must be considered

Additional overarching considerations include:

i. Preference for the completion of construction of the Irv Newhouse building before the renovation or replacement of the Pritchard building and before the renovation of the third and fourth floors of the John L. O'Brien building;

ii. The amount of parking on the capitol campus remains the same or increases as a result of the legislative campus modernization construction projects; and

iii. Options for relocation of the occupants of impact buildings that are not employed by the state to alternative locations, including, but not limited to, the visitor center.

Program Requirements

The space needs analysis and requirements for functional adjacencies were developed in consultation with the Department of Enterprise Services, Senate, House, Legislative Support Services, and other stakeholders. The process included meetings with key stakeholders and review of existing spaces. Key findings include:

— New space is required for existing Senate offices and support spaces in the Newhouse Building that has been designated for replacement.

— Additional space is required for House offices and support spaces due to overcrowding in the O'Brien Building.

— New space is required for the Code Reviser, Legislative Support Services (LSS), and LEG-TECH spaces currently in the Pritchard building that has been designated for replacement.

— New space is required for LSS Administration displaced from the Legislative Building, which was identified to accommodate the Press due to demolition of the existing Press Houses on Opportunity Site 6.

— New space is required for the Production and Design services that are currently off-campus to relocate this joint legislative service on-campus and increase efficiency of their services.

EXISTING CONDITIONS

Newhouse Building

The 25,000 gross square foot Irv Newhouse Building currently houses Senate offices and joint Senate/House legislative functions, including the page school. Built as a temporary facility, it was completed in 1934 and is eligible for listing on the National Register of Historic Places. The structure is located on west block of Opportunity Site 6, on the historic west capitol campus.

The Carlyon House and Ayers Duplex, known as the Press Houses, are also located on this block. Additionally, the 872 square foot Visitor Center is located on the northeast corner of the opportunity site. It is a temporary structure, does not have water or restrooms and only accommodates 4 employees.

The 2017 State Capitol Development Study indicated that the Newhouse Building has significant health and life safety hazards and should be replaced. It noted that any improvement that extends the life of the facility will trigger code requirements for improvements to the envelope, structural, mechanical, electrical and plumbing systems.

The structure of the floors, columns and roof is designed for live gravity loads that meet current standards. Engineering in the 1930's, however, did not include provisions for resisting the lateral forces associated with earthquakes. The structure does not have a lateral force-resisting system that would be considered adequate for major earthquakes in the Puget Sound region. The exterior walls are brick veneer supported by clay tile back up walls that were common during the early 1900's. In an earthquake the brick and clay tile walls will crack and will contribute no additional strength to the building. Plastered clay tile walls were also used for the interior partitions separating offices and in the corridors. In a major earthquake the brittle clay tile walls without internal reinforcing are likely to fall and pose life-safety risks, especially in exit corridors and stairs.

The exterior brick walls supported by clay tile infill walls are not built to contemporary standards for thermal performance or weather protection. The exterior walls are not properly insulated to meet contemporary energy codes. Contemporary standards for construction of brick veneer exterior walls acknowledge the porous nature of brick and mortar. An air space between the brick veneer and the supporting back up wall allows moisture that does get in through the brick veneer construction to find its way back out of the wall through weep holes that are integrated into the mortar joints of the brick veneer. A weather barrier on the supporting wall behind the brick veneer prevents rainwater that does get into the cavity from entering the interior construction.

The exterior construction of the Newhouse building has none of these features. As a result the exterior walls allow rainwater to leak into the interior. Over the past 20 years there have been three major repair projects to address water damage in addition to emergency repairs. Water repellents have been applied but do not prevent water penetration through structural cracks or defects. The design flaws of the existing exterior construction cannot be remedied. A weather barrier, proper air space and weep holes can only be addressed by rebuilding the entire exterior brick veneer wall.

Mechanical, electrical and plumbing systems do not meet code. Ad hoc HVAC systems simultaneously heat and cool, increasing energy use and decreasing occupancy comfort. The domestic water piping is corroded. Sanitary sewer piping is combined with the storm water system. Sewer gas backs up through abandoned fixtures adversely affecting indoor air quality. Storm water backs up causing the lower level to flood. Water infiltrating exterior walls creates a life safety issue for electrical wiring and devices. The fire alarm system is inadequate and constitutes a life safety hazard. Physical security measures are inadequate and do not meet current industry standards.

A 2007 Project Request Report identified deficiencies and proposed replacing the Newhouse building. Since then, the building has further deteriorated and become a life safety hazard.

Senate Offices

The size of the existing Senate offices in the Newhouse Building are adequate and fall within the overall range of 155 to 308 square feet for non-leadership member offices across the Cherberg, Newhouse, and Legislative buildings.

[FIGURE 03] CURRENT/EXISTING NEWHOUSE BUILDING

Second Floor

First Floor

Basement

Senate Offices
Republican Caucus
Nonpartisan Senate Support
Senate & House Page School

The Republican caucus currently occupies spaces that are the same size as member offices and are oversized relative to their function.

Pritchard Building

The 55,485 square foot Pritchard Building was built in 1958 to house the Washington State Library. It has been vacated by the State Library and is currently occupied by the Code Reviser's Office, Legislative Support Services (LSS) and the Legislative Service Center (LEG-TECH). It also contains a public cafeteria. The central location provides good functional adjacencies to the House and Senate.

The Pritchard Building is protected as a state capitol historic facility under RCW 79.24.710 and listed on the National Historic of Historic Places. The 2002 Historic Structures Report indicated that the modest scale of the building does not lend itself to massive modification or addition. The report stated that the main entry and roof should be considered integral to the building and treated with the same importance as the primary interior spaces; any additions should be subordinate to the visual integrity of the primary facade when viewed from the Legislative Building; and that the Washington Room, lower gallery and reading room on the main floor should remain available for public access.

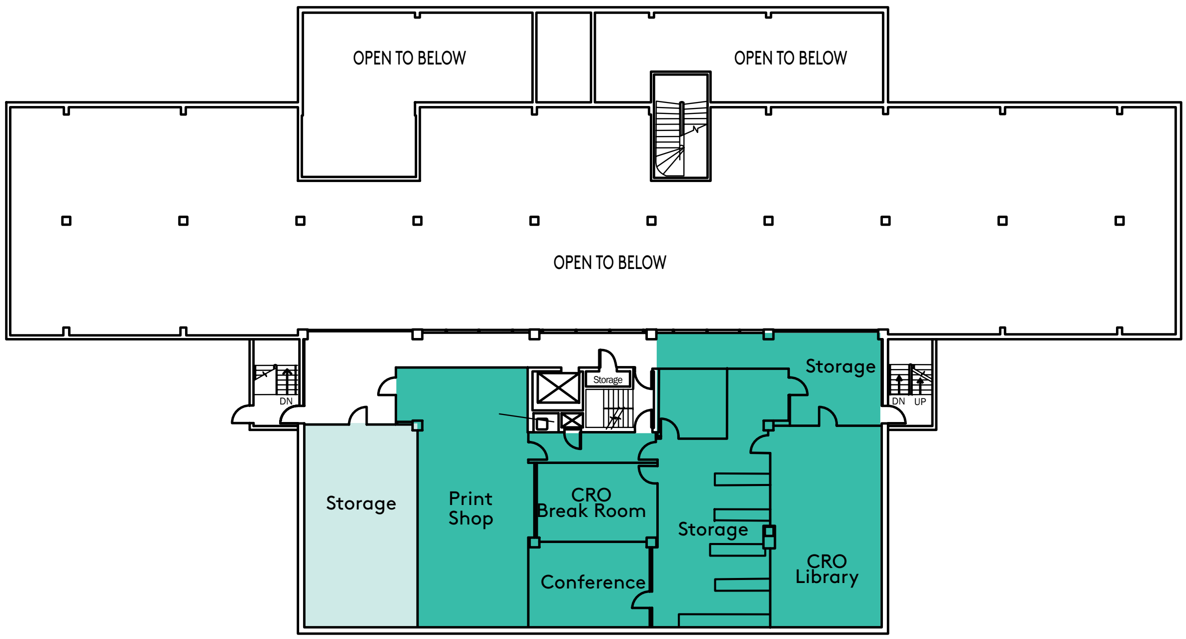
The 2017 State Capitol Development Study indicated that the facility has significant functional, health and life safety hazards that must be addressed. It noted that any improvement which alters the use or extends the life of the facility will trigger code requirements for improvements to the envelope, structural, mechanical, electrical and plumbing systems.

The original closed book stack volume, which represents 63% of the building, is currently vacant. The seven-story stacks have a small footprint, no windows, a 7'-6" floor-to-floor height, one exit stair and no restrooms. City of Olympia code prohibit occupancy of the stacks. Adaptation of the other original library spaces to offices has resulted in functional deficiencies in terms of space allocation, adjacencies, access and acoustics. Providing proper acoustic separation between the functions would be a major investment in an HVAC system that is at the end of its useful life and would trigger updates to other systems. Additionally, physical security measures are inadequate and do not meet current industry standards.

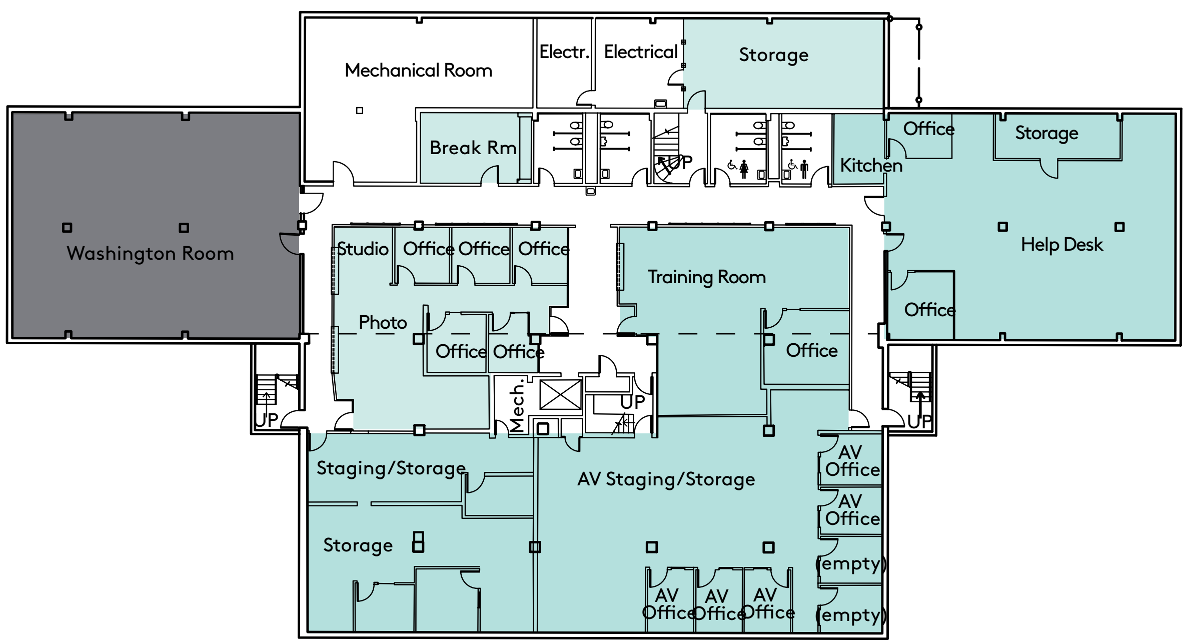
Structural deficiencies are a major issue in the continued use of the facility. The building's lack of strength, ductility and continuity of structural components could lead to partial collapse in a major earthquake. The one-story reading room lacks structural continuity with the seven-story book stacks. They move differently in an earthquake which would cause significant damage. The exterior closure system, including the curtain wall and stone cladding, is not adequately attached to the structure representing a life safety risk to occupants.

Previous predesigns in 2004 and 2006 explored adapting the Pritchard building into offices and public space but were found infeasible due to lack of adaptability in the existing configuration of the building and very high project costs. A 2008 exterior study recommended addressing the existing cladding of the building immediately due to the life safety hazard of stone panels falling off the building.

[FIGURE 05] CURRENT/\EXISTING PRITCHARD BUILDING



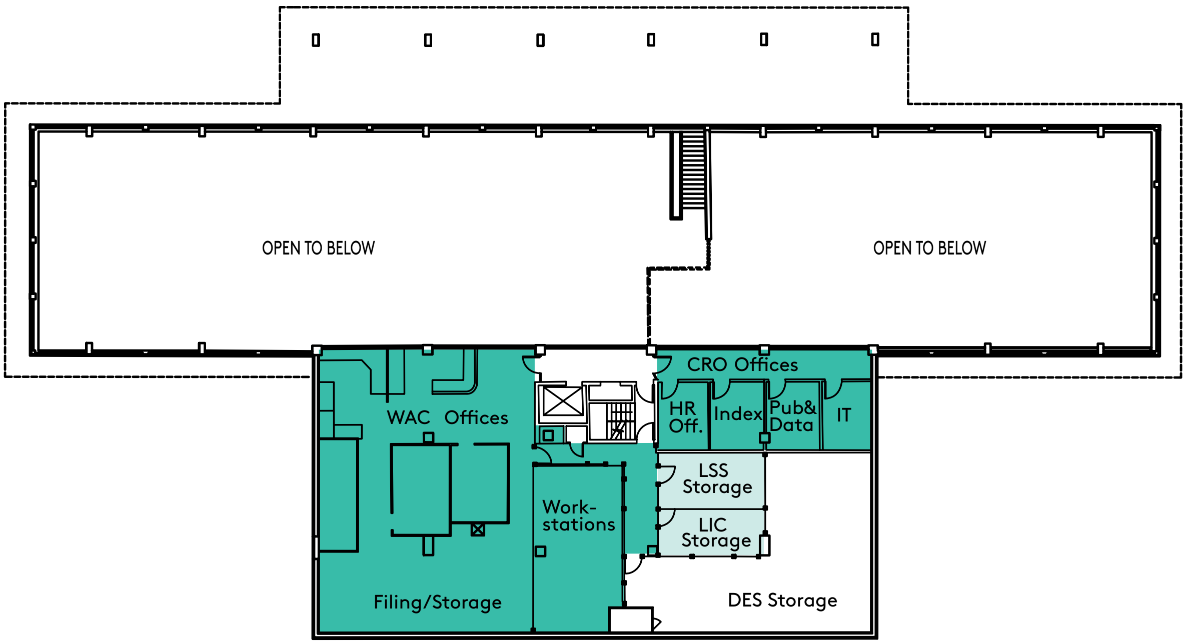
Lower Mezzanine



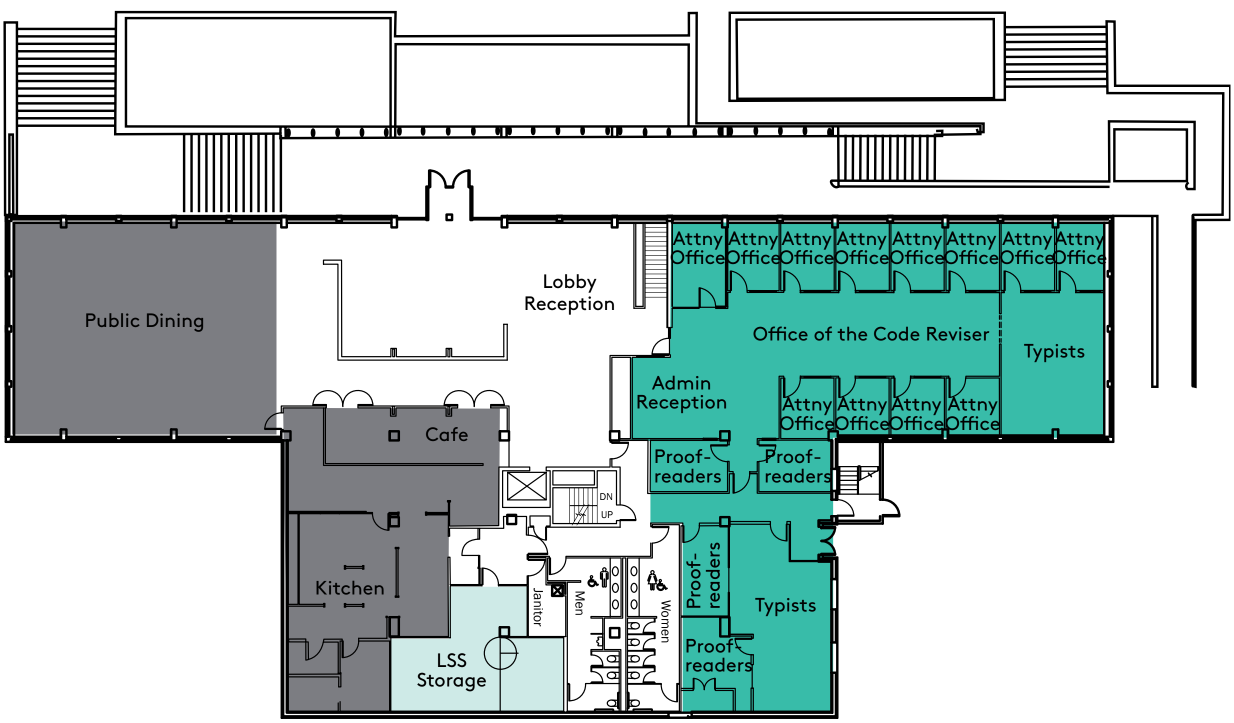
Basement

- Code Reviser
- LEG-TECH
- Legislative Support Services
- Public

[FIGURE 06] CURRENT/\EXISTING PRITCHARD BUILDING

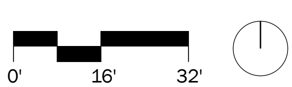


Upper Mezzanine

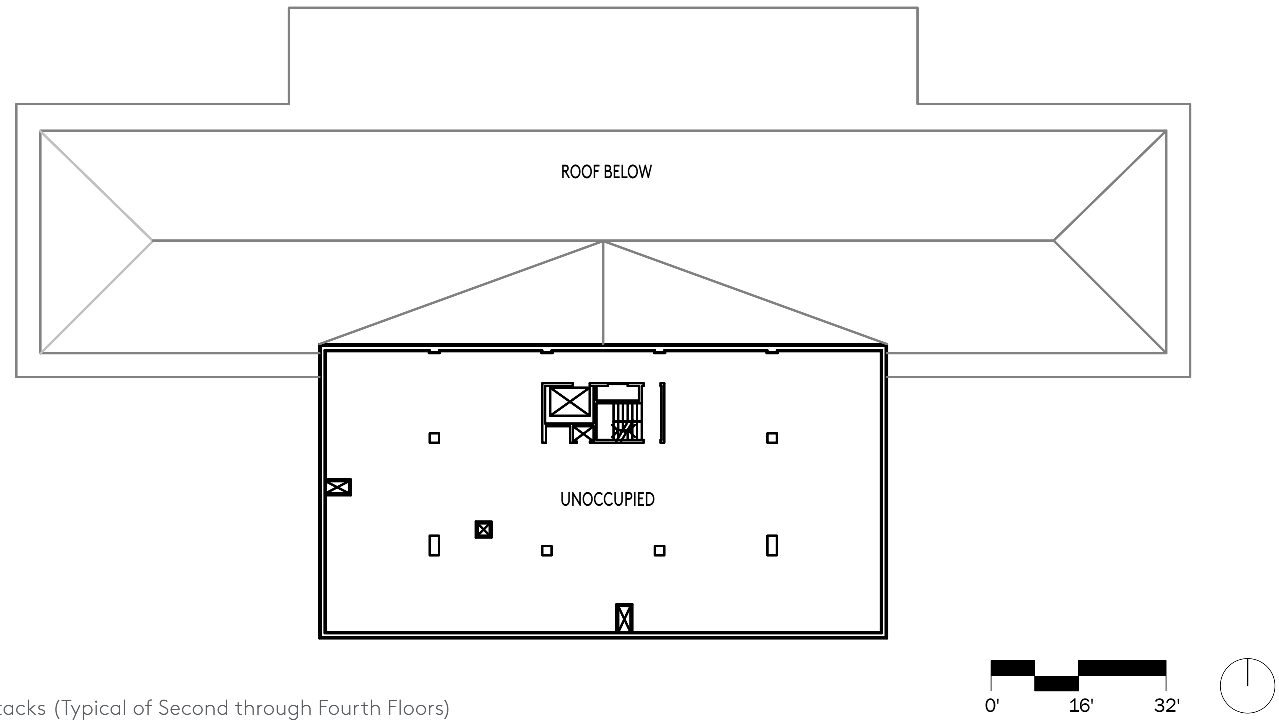


First Floor

Code Reviser
LEG-TECH
Legislative Support Services
Public



[FIGURE 07] CURRENT/\EXISTING PRITCHARD BUILDING



Stacks (Typical of Second through Fourth Floors)

O'Brien Building

The 100,700 gross square foot O'Brien Building contains House offices and support spaces. It was completed in 1940 and comprehensively renovated in 2014. The facility is in good condition but does not have adequate capacity to serve all of the House's functions. The O'Brien Building is the same size as the Cherberg Building, however it contains an additional 124 full time equivalent occupants.

House Offices

Member offices in the O'Brien Building currently average 127 square feet. They are smaller than the average size of House offices in the Legislative Building and the average size of Senate member offices in the Legislative, Cherberg, and Newhouse buildings. Legislative assistants occupy open workstations outside member offices. Materials on their desks are unprotected. During session the narrow, four foot passageways between the open workstations may be filled to capacity by constituents waiting to see their representatives which affects the lack of privacy and functionality of the workstations.

Hearing rooms, caucus rooms and storage space are not adequate to serve House functions. Interns and additional session staff occupy undersized spaces in the basement. They are not adjacent to the members and staff they serve.

SHARED MEETING AND SUPPORT SPACES

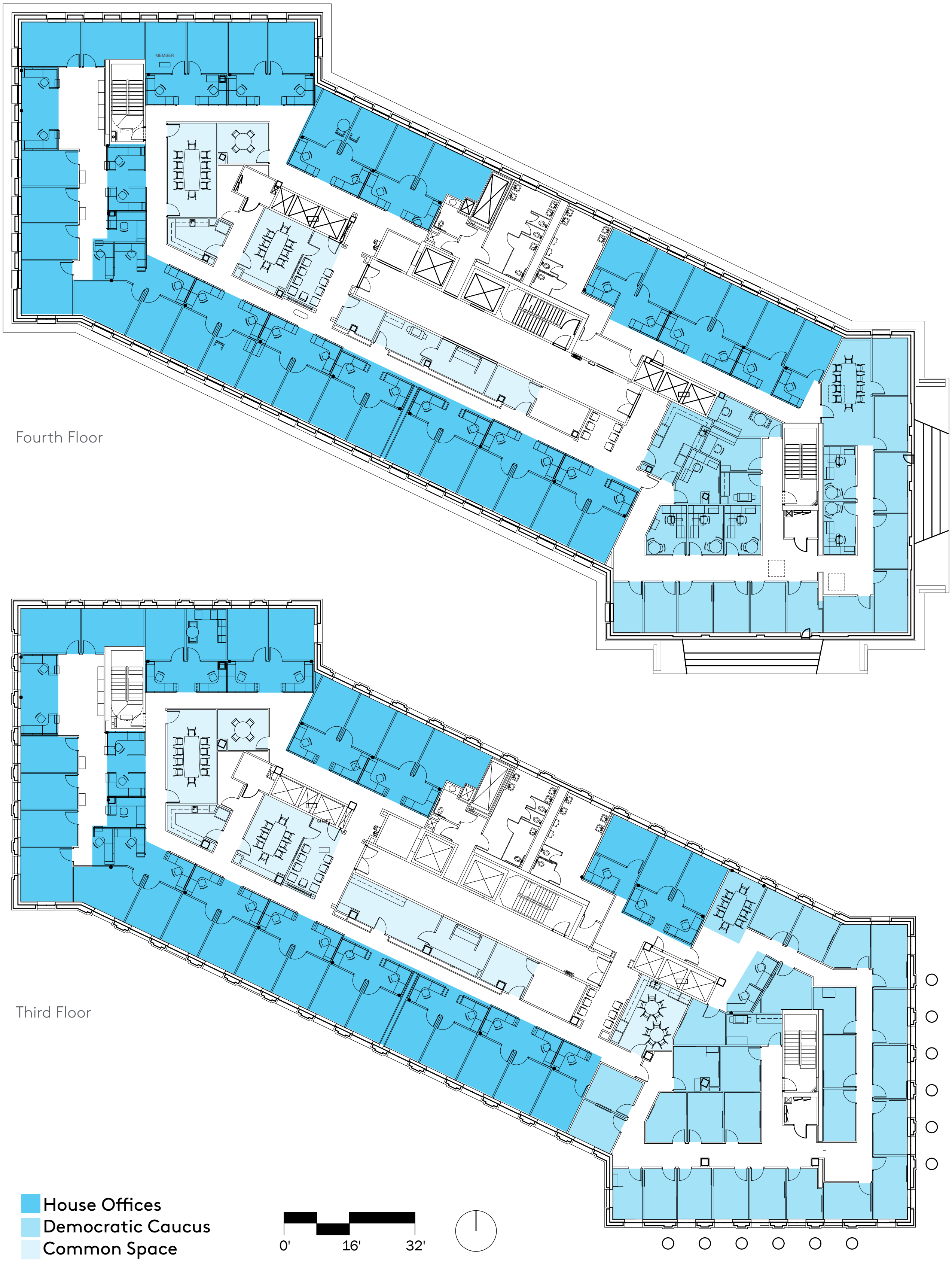
The Senate and the House both need additional meeting and support spaces. The number of meeting rooms is not adequate to meet demand. The Newhouse Building lacks conference rooms, informal meeting areas, and waiting areas. The O'Brien Building does not have enough caucus rooms, conference rooms or overflow hearing space for contentious hearings that attract large groups.

The page school currently located in the Newhouse Building serves both the Senate and the House and needs to be maintained.

LEGISLATIVE AGENCIES

The Code Reviser's Office, Legislative Support Services (LSS), and the Legislative Service Center (LEG-TECH) are legislative agencies that serve both the House and the

[FIGURE 08] CURRENT/EXISTING O'BRIEN PLAN



Senate. They are currently located in the basements of the Cherberg and in Pritchard buildings. Consolidating the services in a central, accessible location would improve their ability to serve the House and Senate equally and efficiently.

Code Reviser's Office

The Code Reviser's Office is the official bill drafting arm of the legislature and provides service for legislators, legislators-elect, legislative committees, joint committees, the governor, state elected officials, legislative staff and agencies. The drafting attorneys proceed on a strictly nonpartisan basis and serve everyone regardless of party affiliation, seniority or any other factor.

The Code Reviser offices are located in the Pritchard Building. Due to the constrained footprint of the former state library, the offices are spread across three floors: the basement mezzanine, the main floor and the first floor mezzanine, which adversely affects operational efficiency.

The centralized location meets adjacency requirements for proximity to House and Senate offices and the Legislative Building, which is crucial to providing access to the office and transportation of physical documents during legislative session. Staff dedicated to the Washington Administrative Code also work with other agencies on campus including the Office of Financial Management located in the Insurance Building.

Legislative Support Services

The Office of Legislative Support Services (LSS) provides a wide range of support to the House and Senate. It oversees the Legislative Information Center (LIC) and Hotline, the Legislative Gift Center, Video Production Services and Photography. It provides graphics, audio and video technical support, and printing, copying and mailing services. It also provides office supplies, ergonomic support, office moving and set-up, picture hanging, small repairs, and related office support functions.

LSS Photography is currently located in the Pritchard Building basement. The size of the space is adequate but the noise from the adjacent LEG-TECH training room is an issue because of the open ceilings.

The Production and Design services are currently located off-campus in the Dawley building. Their function is to provide graphic design and copy and print services to the House and Senate. There are currently delays to session as a result of its off-campus location. Bringing them on campus would increase their efficiency and solve the issue of finding space for them

[FIGURE 09] EXISTING AND PROPOSED BUILDING SIZES

	EXISTING (GSF)	PROPOSED (GSF)	NET CHANGE (GSF)
Newhouse Site			
Newhouse Building to be demolished	25,100	-	
Carlyon Press House to be demolished	3,714	-	
Ayer Press House to be demolished	5,576	-	
Visitor Center to be demolished	*872	-	
Replacement Building (Senate, Page School, Production & Design, LSS Admin)	-	64,765	
TOTAL	35,262	64,765	29,503
Pritchard Site			
Pritchard Building to be demolished	54,710	-	
Replacement Building (House, Leg Agencies)	-	72,342	
TOTAL	54,710	72,342	17,632

*Includes detached building with restroom and custodial closet in the future when the 1009 Washington Street (Dawley building) site gets redeveloped. The Dawley building is old and does not meet current energy codes. It is identified for redevelopment in the 2006 Capitol Master Plan.

Video, office supply, information center, and gift shop services provided by LSS will not be included in this project. The video studio and supply storage and management are currently located in the basement of the Cherberg building and the gift shop and LIC are located in the Legislative building.

LEG-TECH

The Legislative Service Center (LEG-TECH) provides information technology solutions and services to the Washington State Legislature. The center's help desk, training room and audio-visual department are located in the basement of the Pritchard building.

Help desk staff typically leave their offices to provide on-site technology support for the legislature. A limited number of people come to their office. Proximity to the Legislative, O'Brien, and Cherberg buildings is required so that staff can provide quick, efficient service.

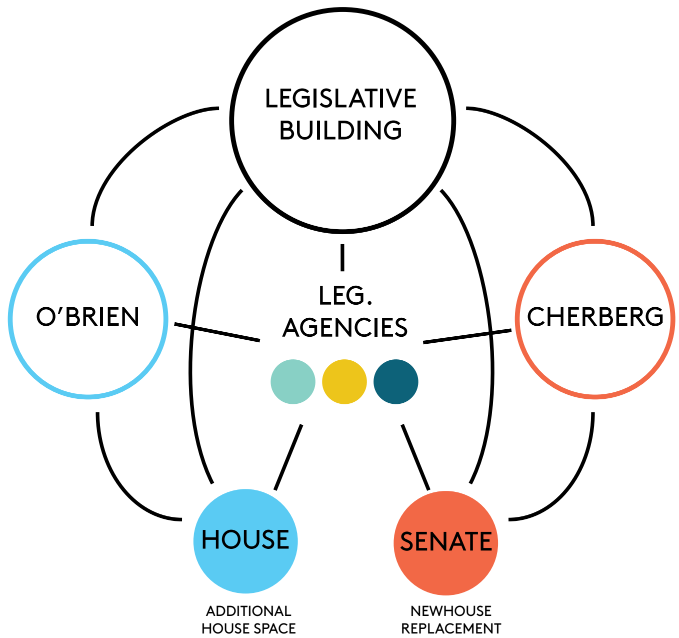
FUNCTIONAL ADJACENCIES

The historic arrangement of space in the Legislative Building – House functions on one side and Senate functions on the other with shared functions in between – established a precedent that was reflected when Cherberg and O'Brien were subsequently occupied by the legislature and the Pritchard Building was constructed for the state library. The House and Senate indicated that this is the preferred functional organization for new development.

The flow of legislative work during session requires functional adjacencies between member offices, conference rooms, hearing rooms, caucus rooms and the legislative chambers. Member schedules revolve around legislative floor activity, hearings, committee meetings, caucus meetings and constituent meetings. It requires constant movement between buildings. Minimizing travel time is critical to member and staff efficiency. Meetings with constituents are typically scheduled in fifteen-minute intervals. Small groups assemble in member offices. Larger groups require conference rooms that should be adjacent to member offices.

Shared services such as LSS photo and video, production and design, Code Reviser, and LEG-TECH are spread across various buildings. The Code Reviser, LEG-TECH help desk, and photo services are currently located in the Pritchard building, while administrative LSS services are in the Legislative building and LSS video and supply services are in the Cherberg building. Production and design facilities are currently off-campus. Although not all shared resources need to be in a single location, reducing the number of locations and consolidating them onto the central campus could improve operating efficiency and equitable access

[FIGURE 10] FUNCTIONAL ADJACENCIES



Parking

Parking stall requirements on campus are determined by the state and are not controlled by the city of Olympia standards. The proviso requires that there is no net change in campus parking as a result of this project.

Temporary Facilities

The proviso states that temporary office space on the Capitol Campus must be provided during construction. Proximity to the existing Legislative, Cherberg, and O'Brien buildings is essential to ensure smooth operation. The Newhouse and Pritchard projects should be coordinated to maximize efficiency of the temporary modular spaces.

Alternatives Analysis

The provisions of ESSB 6248 Section 1027 Chapter 356, Laws of 2020 charge the Legislative Campus Modernization Predesign Study to explore an Irv Newhouse building replacement on opportunity site six, and to consider an option with an additional floor. It also requests studying two options for approaching the Pritchard building: a renovation or a replacement. The chosen alternative will also include renovation of the third and fourth floors of the John L. O'Brien building to right-size existing legislative member offices.

Option A assumes a renovation and expansion of the existing Pritchard Building. A.1 explores a three-story replacement of Newhouse and A.2 explores a four-story replacement. Option B assesses a full replacement of the Pritchard building. B.1 explores a three-story replacement of Newhouse and B.2 explored a four-story replacement.

Consequences of Doing Nothing

IRV NEWHOUSE BUILDING

The Newhouse building was built in 1934 as a temporary facility and has been at the end of its useful life for many years. Since 1997 the Department of Enterprise Services has spent over $5 million in major repairs and improvements. These projects have addressed earthquake repairs, HVAC improvements, electrical and plumbing systems, exterior repairs and sanitary sewer repairs.

Four water damage repair projects since 1997 are evidence of the faulty exterior construction that allows rainwater to get into the interior of the building. Two of these water damage repair projects were labeled as emergency repairs. Maintenance staff reports that moisture continues to seep through in basement areas causing plaster and paint to peel resulting in the need for numerous repairs.

The exterior construction of the Newhouse building has none of the typical features now considered standard that would keep moisture from entering the interior construction. These design flaws cannot be remedied. Water repellents have been applied but they do not prevent water penetration through structural cracks or defects. Correcting the problems of the exterior can only be accomplished by rebuilding the entire exterior envelope.

While about $1 million in major repairs and improvements has been invested in the original HVAC system over the past 20 years, the 1934 equipment is well beyond its useful life. The perimeter steam heating has been turned off due to major leaks in the north mechanical room. The mechanical system is sensitive and the maintenance staff has problems keeping the building pressures within tolerance for functionality. The HVAC system has caused many indoor air quality issues.

Roof drainage is also inadequate as it is tied into the city sanitary sewer system. Roof overflow and main drains are plugged. The maintenance staff has installed a temporary pump system that diverts that water into an exterior drain.

There is a limit as to how much repair the Newhouse building can sustain before failure of one or more systems triggers a comprehensive building remodel. Building code authorities would consider a replacement of mechanical systems and/or the building envelope as an extending the life of the building, which triggers the requirement that the whole building be upgraded to contemporary codes.

The Newhouse building is beyond its economic life. Major building systems such as building envelope, roof, potable water, sewer, electrical, are failing. Failure in any one of these systems may make the building uninhabitable. This will likely occur when the building is fully occupied, such as during legislative session.

PRITCHARD BUILDING

Completed in 1958, the Pritchard building is 63% vacant because a large portion of the building is not safe to use as office space. It consists of book stacks which have no windows, 7'-6" floor to ceiling heights and only one exit stair and therefore cannot be adapted to another use.

Structural deficiencies are a major issue and are challenging to address even in a major remodel. The building's proximity to a steep slope, bad soils, and inadequate lateral system are life safety concerns. The building's lack of strength, ductility and continuity of structural components mean there is high potential for collapse in a seismic event. The one-story reading room lacks structural continuity with the seven-story book stacks. They move differently in an earthquake which would cause significant damage. The exterior closure system, including the curtain wall and stone cladding, is not adequately attached to the structure representing a life safety risk to occupants.

The existing facility has significant functional, health and life safety hazards. Any improvement which alters the use or extends the life of the facility will trigger code requirements for improvements to the envelope, structural, mechanical, electrical and plumbing systems throughout the building.

Option A

Options A.1 and A.2 increase the Pritchard building to 68,000 GSF. The original book stack volume, which represents nearly two-thirds of the building cannot accommodate a modern use, so this portion of the building would be replaced by a new three story structure to serve House and legislative agency needs.

ADVANTAGES

— The historically significant frontage, basement, and artwork in the Pritchard building would be preserved in their existing location.

— House, Senate and legislative agency offices are centrally located, adjacent to O'Brien, Cherberg, and proximate to the Legislative Building. Their scale is consistent with the core campus.

DISADVANTAGES.

— The south portion of the existing building would need to be removed and a substantial upgrade would be required to the remaining north section. This would require the protection of the steep slope on the west side of the building and structural upgrades including repairing cracked concrete and adding seismic resistance.

— The site is susceptible to liquidation settlements in an earthquake. Differential settlements of 6" may occur across the site and would cause damage to structures. Because of this, the new building would be supported on auger-cast concrete piles. The lower floor would be a structural slab spanning to the pile caps so that it does not settle away from the building structure. This provides the least risk for injury to occupants in an earthquake.

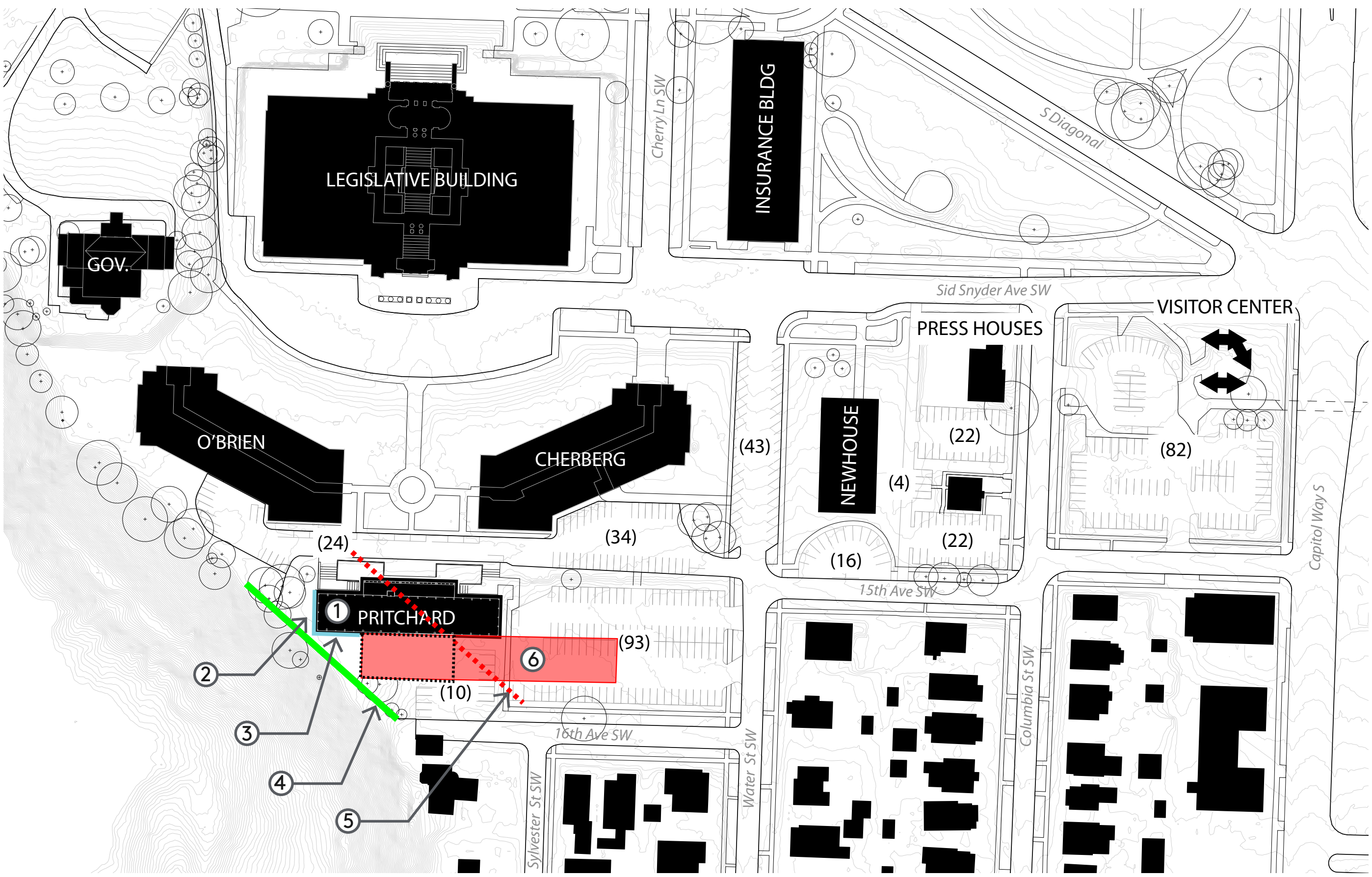
— The site is very close to a steep slope. The geotechnical report indicates that the slope is stable under static loads but is at risk of slides in heavy rains and during an earthquake. If the slope slides, it may undermine the soils under the existing building and any new construction that is within 100 feet of the top of the slope. Even if the new structure is supported on piles, the soils may slide and leave the building effectively standing on stilts. This would cause heavy damage to the utilities and cause a high risk to the safety of occupants. The geotechnical report recommends that a large retaining wall be constructed on the west side of the new construction and the Pritchard Building to protect the soils beneath both structures and improve life safety.

— The proposed retaining wall is estimated to be a continuous secant pile wall constructed with 6-foot diameter drilled piles that overlap to create a solid wall. The piles would extend 100 feet below grade due to the height of the slope and potential slide zone. Heavy equipment would be required to build a wall of this size and it appears that the top of the slope is too close to the existing building to gain safe access to drill the piles. Of two schemes considered, the risks and feasibility suggested the lowest risk option would be to build a continuous 220 foot wall. In order to do so, it is assumed that parts of the existing building will need to be demolished to allow heavy equipment access, then rebuilt afterwards.

— Renovation of the north section of the building would require extensive upgrades to all of the building's aging systems including structural strengthening to meet the seismic performance requirements in the Washington State Existing Building Code.

— After the completion of all this work there would still be the risk that the building could be damaged beyond repair in a major seismic event.

[FIGURE 11] GEOTECHNICAL REQUIREMENTS TO RENOVATE AND EXPAND THE PRITCHARD BUILDING



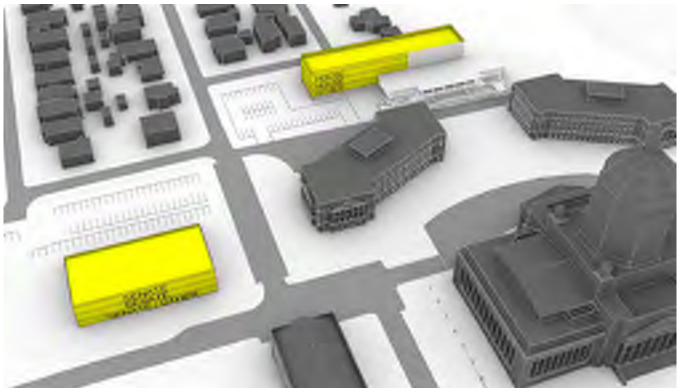
LEGEND

1. Cafe / Reading room
2. Micropiles under existing building foundation
3. Portion of existing building to be removed and rebuilt
4. New secant wall - 220' long, 6' diameter reinforced cassions, 100' deep
5. 100' Setback from steep slope
6. 100' deep auger cast piles under new addition

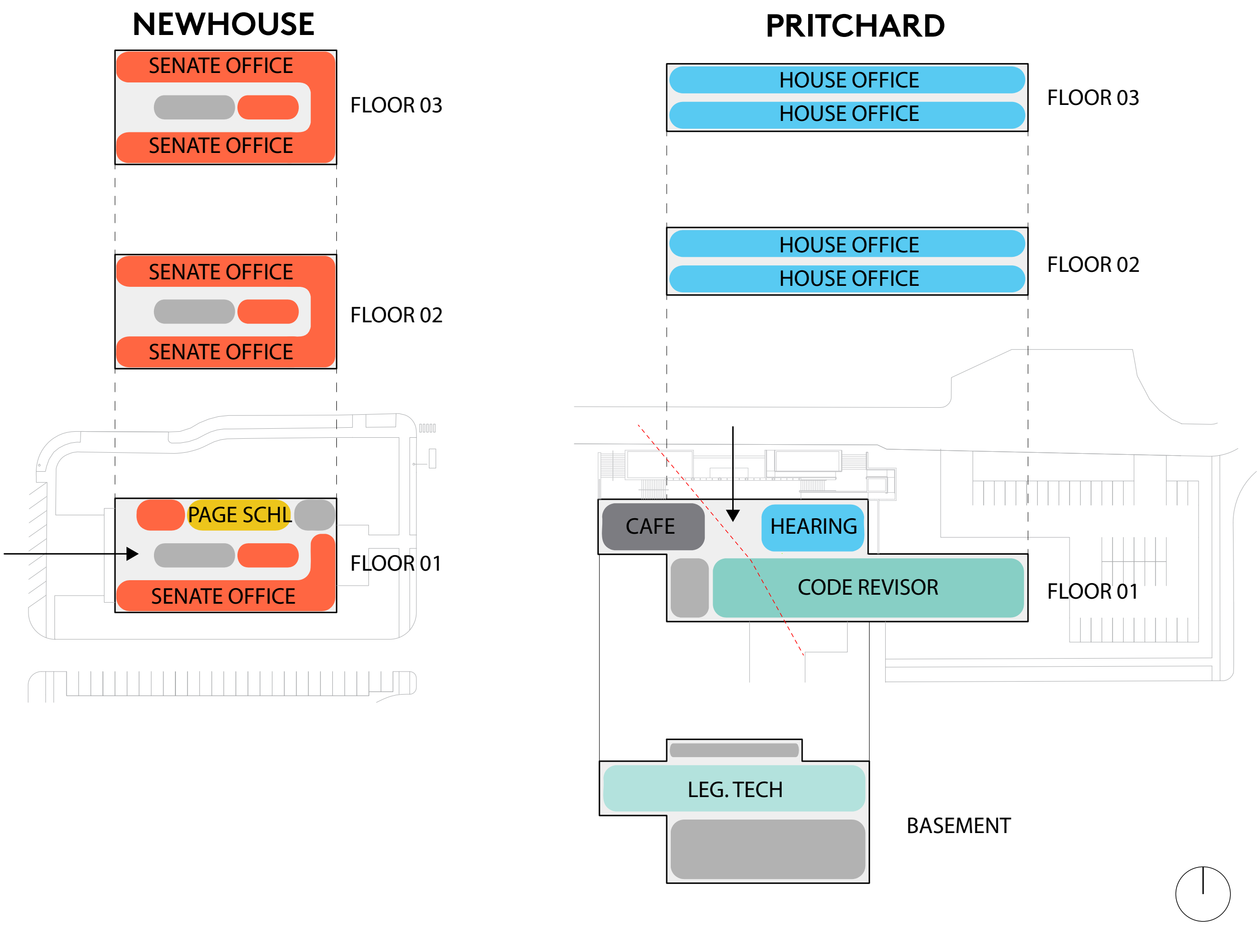
OPTION A.1

In Option A.1 Newhouse replacement building contains three floors to accommodate Senate offices and the page school. The upper two floors have Senate office and other Senate spaces and the ground floor has Senate space and the Page School. While this option accommodates the uses currently in the Newhouse building, it does not include Production & Design and Legislative Support Services (LSS) administrative program desired and does not address the issue of displacing the Press Houses.

[FIGURE 12] OPTION A.1



[FIGURE 13] OPTION A.1

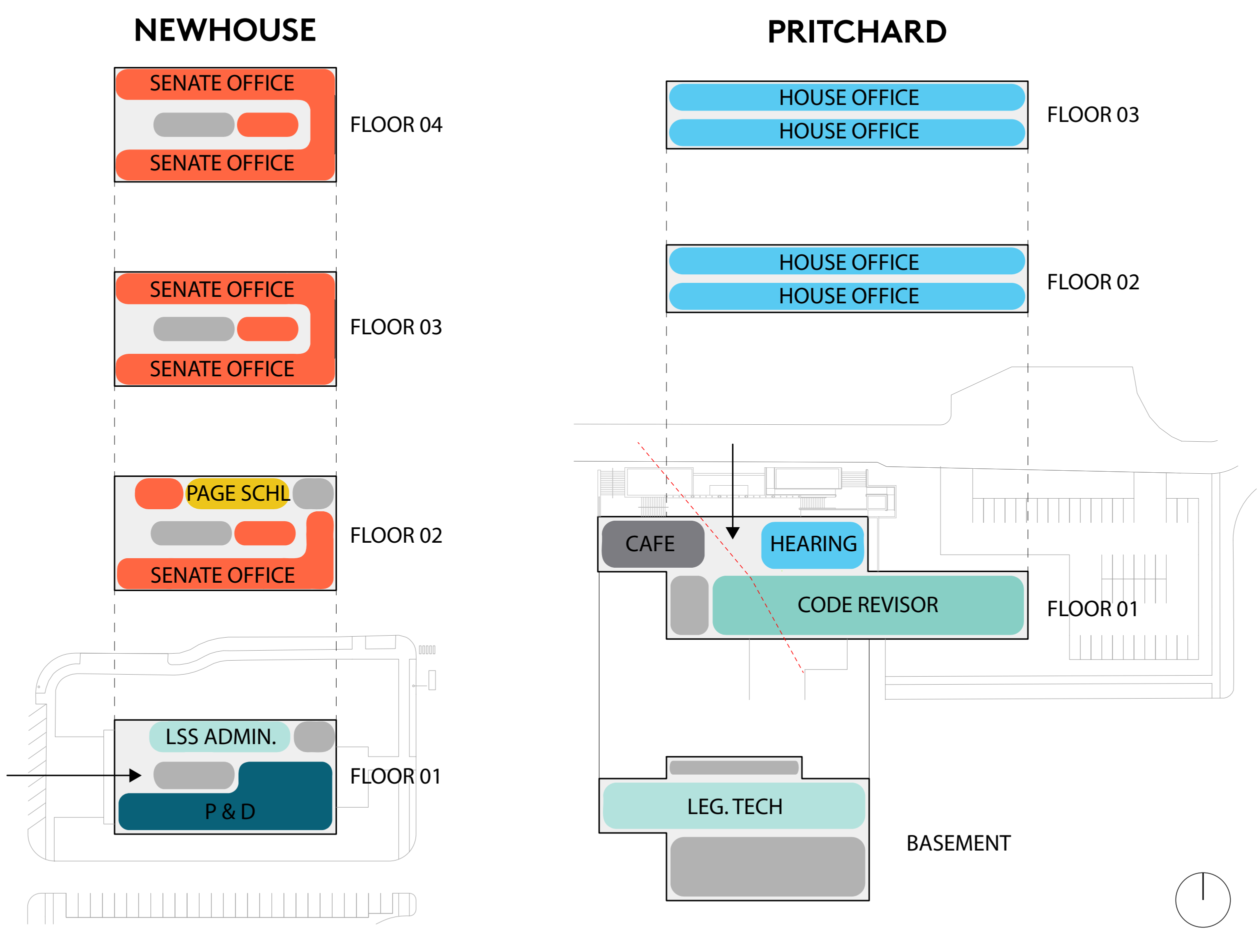


OPTION A.2

Option A.2 adds a fourth floor to the Newhouse building, matching the height of the Cherberg and O'Brien buildings. The upper two floors have Senate office and other Senate spaces, the second floor has Senate space and the Page School, and the ground floor has Production and Design and LSS administrative spaces. The LSS administrative program is accommodated in this option, allowing for space in the Legislative Building for the press.

[FIGURE 14] OPTION A.2

[FIGURE 15] OPTION A.2



Option B

Option B proposes a three-story 72,300 GSF replacement building on the Pritchard site to accommodate the Code Revisor, Legislative Agency, and public functions currently located in the Pritchard building and additional space for House member offices, House support space, and a hearing room.

The ground floor is set back 100 feet from the steep slope to maintain structural integrity and the upper floors cantilever beyond. This allows for the entry to the building to still be on axis with the Legislative Building and for the upper floors to fill the views at the end of the axis, also minimizing travel distances to the entry within the building.

The third floor holds House offices and support, the second floor holds Legislative Agencies and the ground floor has the lobby, hearing room, cafeteria, and agency support.

The building would look like a more modern building, keeping with the master plan requirement that buildings be built of their time.

ADVANTAGES

— By fully replacing the Newhouse and Pritchard buildings, functional and health and life safety hazards for both buildings can be fully addressed.

— New buildings will meet modern building codes and standards, improving the health, safety, accessibility, and efficiency.

— House, Senate and legislative agency offices would all be centrally located, adjacent to O'Brien, Cherberg, and proximate to the Legislative Building. The building's scale would be consistent with the core campus.

— Entry alignment with the Legislative Building axis would be maintained.

— Historically significant artwork including the Kenneth Callahan murals from the Washington Room, Mark Tobey mural and Fitzgerald mosaic on the first floor, and Everett DuPen's sculpture, maintaining the legacy of the State Library.

DISADVANTAGES

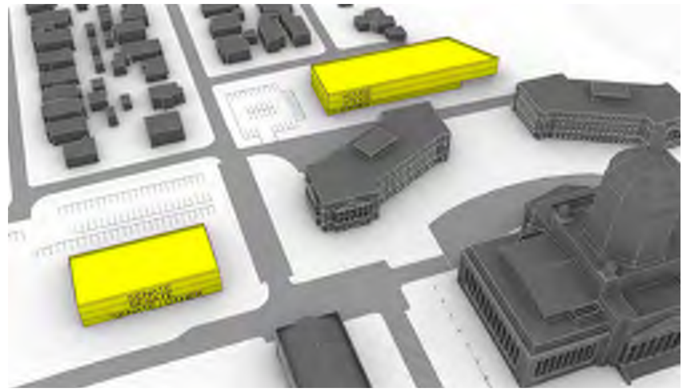
— The historic Pritchard building would be demolished.

— Even for new construction, the Pritchard site has challenging soil and slope conditions that will require a setback from the hillside and specialty foundations.

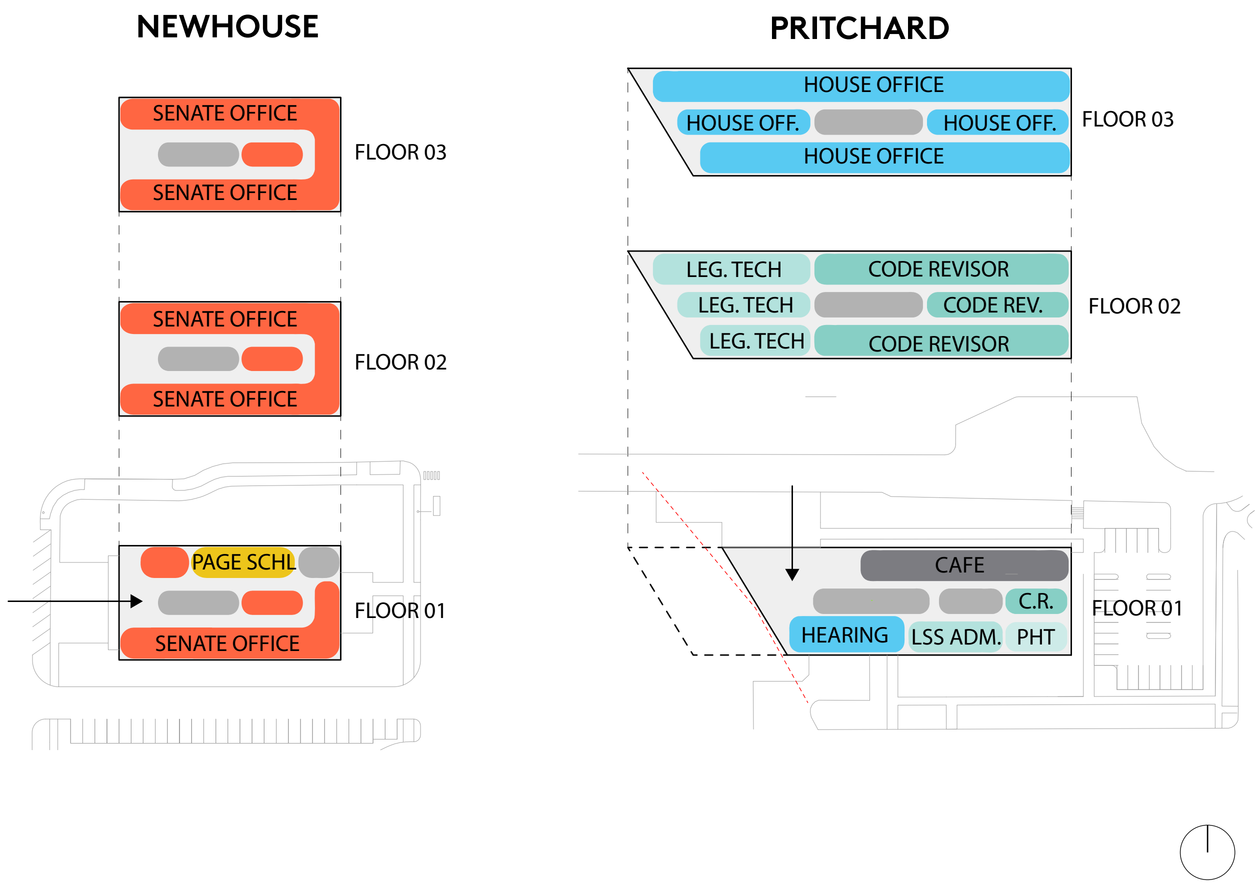
OPTION B.1

As described in Option A.1, Option B.1 includes a Newhouse replacement building that contains three floors to accommodate Senate offices and the page school. While this accommodates the uses currently in the Newhouse building, it does not include Production & Design program desired.

[FIGURE 17] OPTION B.1



[FIGURE 16] OPTION B.1

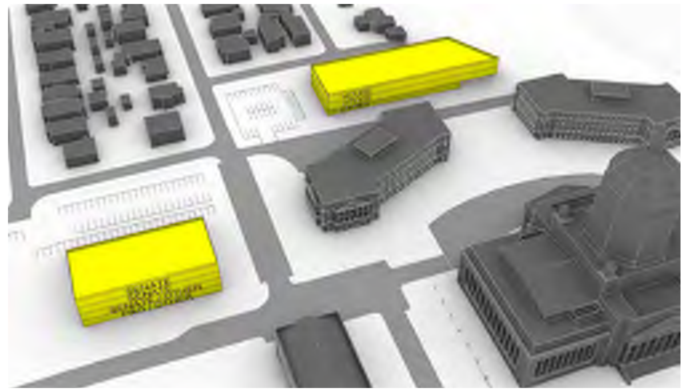


OPTION B.2

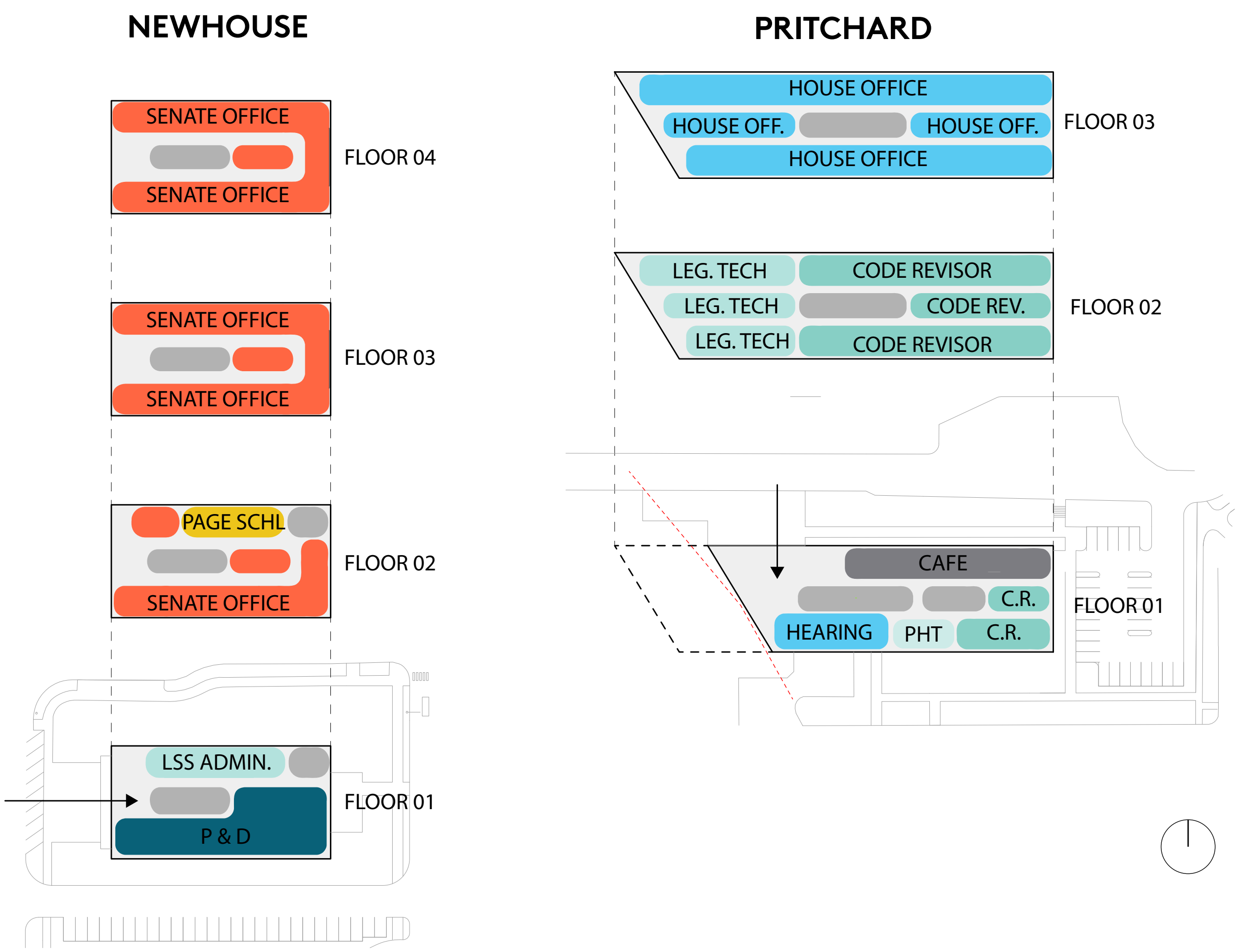
Similar to A.2, Option B.2 adds a fourth floor to the Newhouse building, matching the height of the Cherberg and O'Brien buildings. The upper two floors have Senate office and other Senate spaces, the second floor has Senate space and the Page School, and the ground floor has Production and Design, LSS administrative spaces, and Senate security. The LSS administrative program is accommodated in this option, allowing for space in the Legislative Building for the press.

Due to its ability to fully address program requirements and meet health and life safety requirements, Option B.2 was selected as the Preferred Alternative. This option solves a variety of parking related challenges, providing better circulation, enhanced parking lot surface and improved signage and lighting.

[FIGURE 19] OPTION B.2



[FIGURE 18] OPTION B.2



Detailed Analysis of Preferred Alternative

Description of Preferred Alternative

SPACE NEEDS ASSESSMENT

Senate Offices

The Senate office space allocation table includes fifteen member offices at 235 square feet each to replace those in the existing Newhouse Building. Senate offices are also located in both the Legislative and Cherberg Buildings. The overall range for non-leadership member offices across the Cherberg, Newhouse, and Legislative buildings is 155 to 308 square feet.

The space allocation table includes offices for the Republican caucus at 130 square feet each to replace the existing Newhouse Building offices at the right size. The Republican caucus currently occupies spaces that are the same size as member offices and are oversized relative to their function. The proposed spaces are sized based on the existing Democratic caucus offices in Cherberg.

House Offices

The House office space allocation table provides for the relocation of 35 member offices and their legislative assistants into new office space. Member offices are sized at 205 square feet to match the proposed average existing member offices.

Tenant improvements to the third and fourth floors of O'Brien would provide larger offices for members and their legislative assistants and allow circulation spaces to be widened. These alterations would improve the privacy of the legislative assistants who perform confidential tasks and manage access to the members. They would increase constituent waiting area and provides space for additional session staff and conference rooms as well as informal meeting areas similar to the Cherberg Building. Members will be able to meet with larger groups of constituents in their offices or in the additional adjacent conference rooms.

[FIGURE 20] AVERAGE SENATE OFFICE SIZES

	NO. OF OFFICES	TOTAL OFFICE AREA	AVERAGE OFFICE SIZE	**RANGE OF OFFICE SIZE
Existing	***50**	**11,391 SF**	**228 SF**	**150 - 308 SF**
Cherberg	18	4,238 SF	235 SF	
Legislative Building	16	3,854 SF	241 SF	
Newhouse	16	3,299 SF	206 SF	
Proposed	***50**	**11,852 SF**	**237 SF**	**155 - 308 SF**
Cherberg	18	4,238 SF	235 SF	
Legislative Building	16	3,854 SF	241 SF	
Newhouse	16	3,760 SF	235 SF	

*Includes empty/unused offices, resulting in a number higher than the number of senators.

**Excludes a large leadership office in Leg for more accurate representation of range of standard office size.

Existing House member offices in the Legislative and O'Brien Buildings average 154 square feet. The proposed functional program would increase average member office size to 206 square feet and increase the minimum size from 113 to 149 square feet, resulting in an overall range for non-leadership member offices of 149 to 264 square feet.

Shared Meeting and Support Spaces

Hearing Rooms

A new hearing room is added to the replacement Pritchard building and is sized to accommodate large audiences. It would be used for joint House-Senate hearings and accommodate legislative sub-agency and non-legislative meetings. Similar to those in the O'Brien and Cherberg buildings, the hearing rooms would include rows of elevated benches at the front of the room. Enhanced AV capabilities and projection screens should be included to allow for listening and viewing of the proceedings from other rooms and facilitate digital presentations.

Conference Rooms

The Senate and House both need additional meeting space; the current number of meeting rooms is not adequate to meet demand. Medium and large sized conference rooms and informal meeting areas will be included in both the Pritchard and Newhouse replacement buildings on each floor.

Page School

The existing Newhouse building contains a page classroom and Senate page room. The space allocation table for the Newhouse replacement building includes these functions and expands the program to two classrooms and two page rooms to serve both the House and the Senate. Classroom technology and assets such as projection screens, speakers, and dry-erase writing surfaces should be included.

Waiting Space

In both the existing O'Brien and Newhouse buildings, waiting space for the public before they meet with members is limited to crammed hallways. The replacement buildings will include reception checkpoints on each floor and waiting space outside every member office. Reorganization of the third and fourth floors of the O'Brien building will allow the width of the corridors to be reclaimed as waiting space.

Legislative Agencies

The Code Reviser's Office, Legislative Support Services (LSS), Legislative Service Center (LEG-TECH), and Production and Design Services all serve both the House and the Senate. The Code Reviser is currently located in the existing Pritchard building. LSS has space in the Pritchard, Cherberg and Legislative buildings as well as off campus. LEG-TECH has space in the Pritchard and Helen Summers buildings. Consolidating these services in a central, accessible location in a modern facility would improve their ability to serve the House and Senate equally and efficiently. The office and support space sizes and quantities for these agencies have been vetted with the user groups to meet the current and projected needs.

Press

The existing Press Houses, which provide workspace for journalists on campus, will be demolished as part of the Newhouse construction. The functions will be relocated into rooms 101 and 102 in the Legislative building. The total space required is 1,394 square feet. Reference the Appendix for a proposed layout prepared by DES.

[FIGURE 21] AVERAGE HOUSE OFFICE SIZES

	NO. OF OFFICES	TOTAL OFFICE AREA	AVERAGE OFFICE SIZE	**RANGE OF OFFICE SIZE
Existing	***90**	**13,894 SF**	**154 SF**	**113 - 264 SF**
O'Brien	64	8,099 SF	127 SF	
Legislative Building	*26	5,795 SF	223 SF	
Proposed	***90**	**18,569 SF**	**210 SF**	**149 - 264 SF**
O'Brien (TI)	29	5,599 SF	193 SF	
Legislative Building	*26	5,795 SF	223 SF	
New Space	35	7,175 SF	205 SF	

*Average excludes eight unusually small offices on the first floor of the Leg building for more accurate average of typical offices

**Range excludes eight unusually small offices and four large leadership offices in Leg for more accurate representation of range.

SPACE ALLOCATION TABLES

[FIGURE 22] NEWHOUSE REPLACEMENT SPACE ALLOCATION

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
Senate									
Member offices	16	206	3,299	16	N	16	235	3,760	16
LA offices	16	112	1,792	16	N	16	130	2,080	16
SA offices	16	136	2,176	16	N	16	120	1,920	16
Waiting					A	8	115	920	
Reception	1	88	88	1	N	3	410	1230	3
Human Resources Office					A	1	130	130	2
Public Records Office					A	2	130	260	2
Senate Page Room	1	980	980	15	N	1	1,000	1,000	15
Senate Page Supervisor	2	Included above		2	N	2	130	260	2
Intern Staff					A	2	130	260	2
Intern Workstations					A	20	60	1,200	20
Briefing Room					A	4	150	600	
Informal Meeting Area					A	3	340	1,020	
Empty Offices (Unused)	2	160	320		N				
SENATE TOTAL			**8,655**	**66**				**14,640**	**94**
Caucus									
Offices	19	200	3,800	19	N	24	130	3120	24
Assist./Intern Workstations	6	211	1,266	6	N	20	110	2200	20
Radio/Communications	1	85	85		N	1	200	200	1
Conference Room Large	1	390	390		N	2	350	700	
Conference Room Small					A	3	200	600	
Informal Meeting Area					A	1	700	700	
CAUCUS TOTAL			**5,541**	**25**				**7,520**	**45**
Senate/House Page School									
Page Classroom	1	810	810	15	N	1	1,400	1,400	15
Page Teacher Offices	1	170	170	2	N	2	130	260	2
PAGE SCHOOL TOTAL			**980**	**17**				**1,660**	**17**

(TABLE CONTINUED ON FOLLOWING PAGE)

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 23] NEWHOUSE REPLACEMENT SPACE ALLOCATION (CONTINUED)

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
Production & Design									
Project Manager Office	1	145	145	1	D				
Offices	2	196	392	2	D	2	130	260	2
Copier/Scanner/Roland	1	232	232		D	1	75	75	
Staff Workstations	1	1,240	1,240	6	D	7	100	700	7
Wide Format					A	1	530	530	
Copier Area	1	1,743	1,743		D	1	1250	1,250	
Engraving					A	1	270	270	
Book Production					A	1	850	850	
Polar Cutter, Perfect Binder					A	1	240	240	
Heidelberg GTO Letterpress	1	1,444	1,444		D				
Misc Storage	1	196	196		D	1	200	200	
Warehouse Ship/Receiving	1				A	1	450	450	
Conference/Kitchen Room					A	1	150	150	
Plate Maker	1	120	120		D				
Mail Shop	1	369	369		D	1	260	260	
Paper Room	1	421	421		D	1	342	342	
Files	1	91	91		D				
Storage	3	129	387		D				
PRODUCT. & DES. TOTAL			**6,780**	**9**				**5,577**	**9**
LSS									
LSS Administrative Staff	1	983	983	5	L	1	720	720	5
Conference/Break Room	1	593	593		L	1	520	520	
LSS TOTAL			**1,576**	**5**				**1,240**	**5**
Legislative Ethics									
Ethics Office	1	190	190	1	L	1	150	150	1
LEG. ETHICS TOTAL		**190**	**190**	**1**				**150**	**1**

(TABLE CONTINUED ON FOLLOWING PAGE)

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 24] NEWHOUSE REPLACEMENT SPACE ALLOCATION (CONTINUED)

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
Shared									
Lobby					A	1	800	800	
Waiting					A	1	580	580	
Senate Security Station	1	80	80	1	N	1	150	150	1
Senate Security Staff					A	3	150	450	1
Senate Security Control					A	1	340	340	1
Public Meeting Space					A	1	1120	1120	
Informal Meeting Spaces					A	1	1200	1200	
Breakroom	1	192	192		N	8	200	1,600	
Copy rooms/supplies	1	220	220		N	8	200	1,600	
Lactation/Quiet Room					A	2	110	220	
Storage					A	3	340	1020	
SHARED TOTAL			**492**	**1**				**8,220**	**3**
TOTAL ASSIGNABLE			**24,214**	**124**		**60%**		**39,007**	**168**
BLDG SUPPORT & CIRC.						40%		25,758	
GROSS AREA								**64,765**	

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 25] PRITCHARD REPLACEMENT SPACE ALLOCATION

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
House									
Member offices	See O'Brien Renovation					35	205	7,175	35
LA offices						35	110	3,850	35
Intern workstations						19	90	1,710	19
Large conference rooms						3	350	1,050	
Small conference rooms						3	200	600	
Briefing Room						2	300	600	
PRO Offices						3	120	360	3
HOUSE TOTAL	See O'Brien Renovation							**15,345**	**89**
LEG-TECH (LSC)									
Reception					A	1	240	240	
Help desk workstations	15	100	1,500	15	P	19	90	1,710	19
Private offices	7	107	746	7	P	3	130	390	3
Equipment staging	2	275	550		P	1	500	500	
Equipment storage	4	222	888		P	1	900	900	
Copy Room						1	120	120	
Break Room						1	220	220	
AV equip. storage & staging	1	1,509	1,509		P	1	1,500	1,500	
Conference room						1	225	225	
Training room	1	887	887		P	1	900	900	
Kitchen	1	101	101		P				
Quiet Room	1	76	76		P				
Empty Offices (not used)	2	82	164		P				
LEG-TECH (LSC) TOTAL			**6,421**	**22**				**6,705**	**22**
LSS Photo									
Studio	1	566	566		P	1	400	400	
Workstations	6	91	546	6	P	6	90	540	6
LSS PHOTO TOTAL			**1,112**	**6**				**940**	**6**

(TABLE CONTINUED ON FOLLOWING PAGE)

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 26] PRITCHARD REPLACEMENT SPACE ALLOCATION (CONTINUED)

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
Code Reviser									
Private offices	16	113	1,808	16	P	18	130	2,340	18
RCW Director/Attorney						1	130		
RCW Attorney						8	130		
RCW Checkers						4	130		
WAC Register Editors						2	130		
Professional Staff						3	130		
Shared offices	4	137	548	8	P	4	160	640	8
RCW Proofreaders						2	160		
OTS Proofreaders						1	160		
Register Proofreaders						1	160		
Reception Waiting Area						1	200		
Workstations	19	155	2,949	19	P	19	90	1,710	19
Reception Workstations						3	90		
RCW Editorial Assistants						6	90		
WAC/Reg. Edit. Assistants						4	90		
OTS Editor						1	90		
OTS Editorial Assistants						2	90		
WAC, Register (Session)						1	90		
RCW (Session)						1	90		
Session Attorney						1	90		
Print shop	1	878	878	1	P	1	700	700	1
Library	1	657	657		P	1	500	500	
File storage	1	1,416	1,416		P	1		1,900	
Current Bill Draft Storage						1	700		
4 Year Bill Storage						1	600		
Register & Archived WAC						1	600		
Copy rooms						2	120	240	
Breakroom	1	272	272		P	1	150	150	
Conference	1	293	293		P	1	300	300	
General Storage						1	800	800	
CODE REVISER TOTAL			**8,821**	**44**				**9,480**	**46**

(TABLE CONTINUED ON FOLLOWING PAGE)

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 27] PRITCHARD REPLACEMENT SPACE ALLOCATION (CONTINUED)

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	**UNITS**	**SIZE (NSF)**	**SUBTOTAL (NSF)**	**STAFF**
Shared									
Waiting						3	200	600	
Reception						2	280	560	2
Breakrooms						2	150	300	
Copy rooms/supplies						2	150	300	
Informal Meeting Rooms						2	550	1,100	
Storage						1	300	300	
SHARED TOTAL								**3,160**	**2**
Public Space									
Lobby						1	1,600	1,600	
Large hearing room						1	2,400	2,400	
Caucus/meeting rooms						2	150	300	
Security Office						1	150	150	1
Security Station						1	150	150	
Washington Room	1	1,400	1,400		P				
Lactation/Quiet Room						2	110	220	
Cafeteria	1	2,345	2,345		P	1	1,850	1,850	
Kitchen	1	938	938		P	1	640	640	
Café / Grab & Go	1	815	815		P	1	450	450	
PUBLIC TOTAL			**5,498**					7,760	1
Third House									
Third House	1	145	145	2	P	1	150	150	2
THIRD HOUSE TOTAL			**145**	**2**				**150**	**2**
TOTAL ASSIGNABLE			**21,996**	**72**		**60%**		**43,540**	**168**
BLDG SUPPORT & CIRC.						40%		28,802	
GROSS AREA								**72,342**	

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

[FIGURE 28] O'BRIEN RENOVATION

	EXISTING PROGRAM					PROPOSED PROGRAM			
AGENCY	UNITS	AVG.SIZE (NSF)	SUBTOTAL (NSF)	STAFF	LOC.*	UNITS	SIZE (NSF)	SUBTOTAL (NSF)	STAFF
House									
Member Offices	64	127	8,099	64	O	29	**193	5,599	29
LA Offices						25	110	2,750	25
LA Workstations	64	77	4,928	64	O	4	90	360	4
Intern Workstations	15	54	810	15	O				
Large Conference Room						1	300	300	
HOUSE TOTAL			**13,837**	**143**				**9,009**	**58**
TOTAL ASSIGNABLE						***51%		**9,009**	**58**
BLDG SUPPORT & CIRC.						49%		8,245	
GROSS AREA								**17,600**	

*P=Pritchard N=Newhouse; L=Legislative Building; O=O'Brien; D=Dawley Building; A=Added Space

**Exact office sizes vary; average size is calculated based on renovation floor plans

***Low efficiency due to regained circulation space previously

BASIC CONFIGURATION OF BUILDINGS

Both the Newhouse and Pritchard replacement buildings feature security improvements to bring these facilities into alignment of current industry standards. Features include a secure entry and locating the security station and offices are near the front door to monitor activity. Only select areas of the ground floor are open to the public and access to upper floors is restricted.

The overall height of the buildings do not exceed that of the nearby Cherberg building. One set of stairs in each building allows access to rooftop PV panels and a screened mechanical penthouse.

Newhouse Replacement Building

The preferred alternative proposes a four-story building on the Newhouse site. Its location on the northwest corner of the site places it adjacent to the Cherberg building and gives it a presence on Sid Snyder Ave SW, a major circulation path on the Capitol Campus.

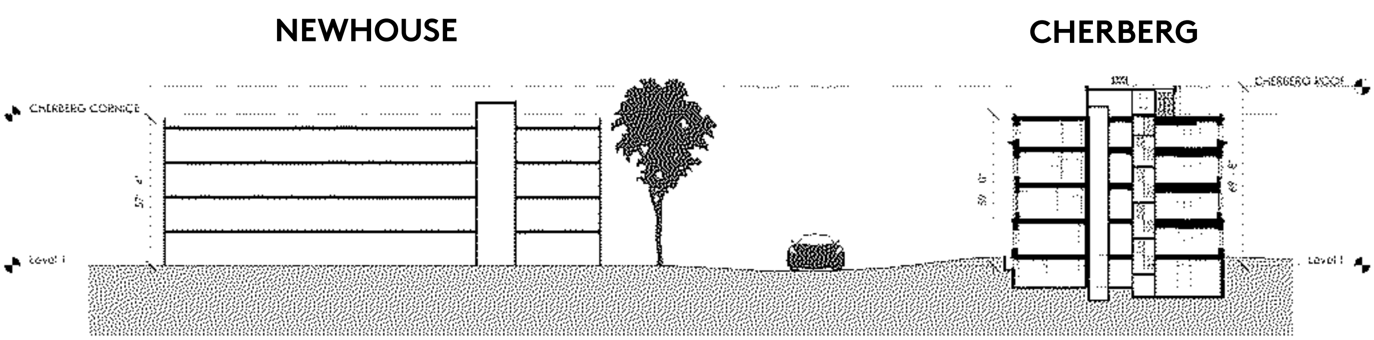
The first floor contains space for Production and Design, LSS administration services (relocated from the Legislative building), meeting space, and Senate security. The second floor include the Page school, additional Senate support and Republican caucus offices. The third and fourth floors are dedicated to Senate member offices. Reference Figures 33 and 34 for the test-to-fit floor plan.

Pritchard Replacement Building

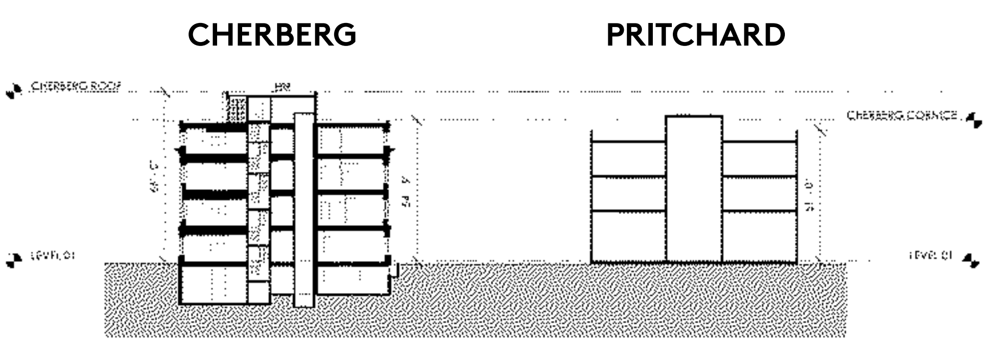
The proposed building on the Pritchard site has three floors. Its front door maintains the axis with the Legislative building. The upper floors cantilever over the hill with a truss structure.

The ground floor includes shared functions, a Hearing Room, café, and lobby. The second and third floors contain House member offices. Reference Figure 35 for the test-to-fit floor plan.

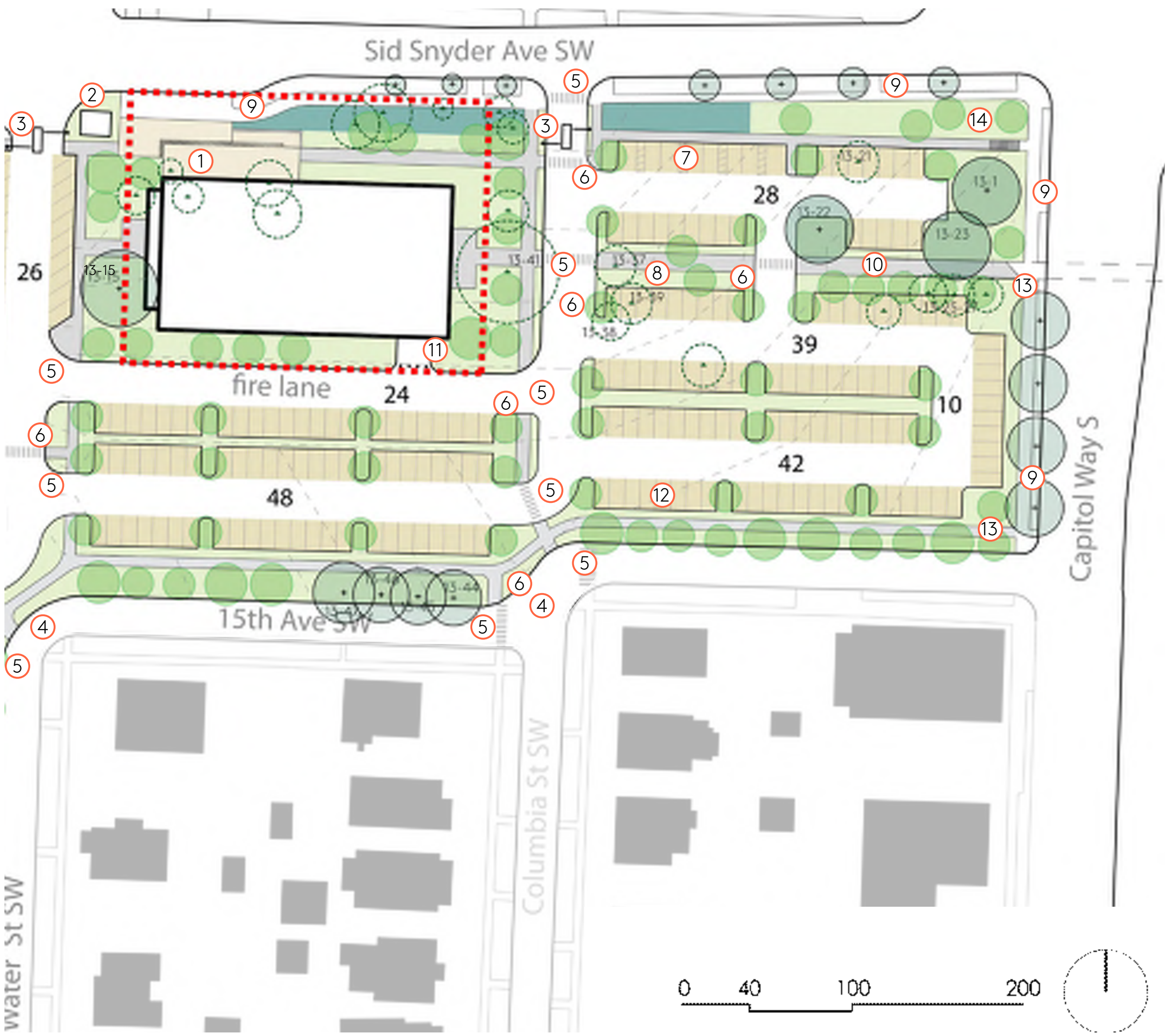
[FIGURE 29] NEWHOUSE BUILDING SITE SECTION



[FIGURE 30] PRITCHARD BUILDING SITE SECTION



[FIGURE 31] NEWHOUSE BUILDING SITE PLAN



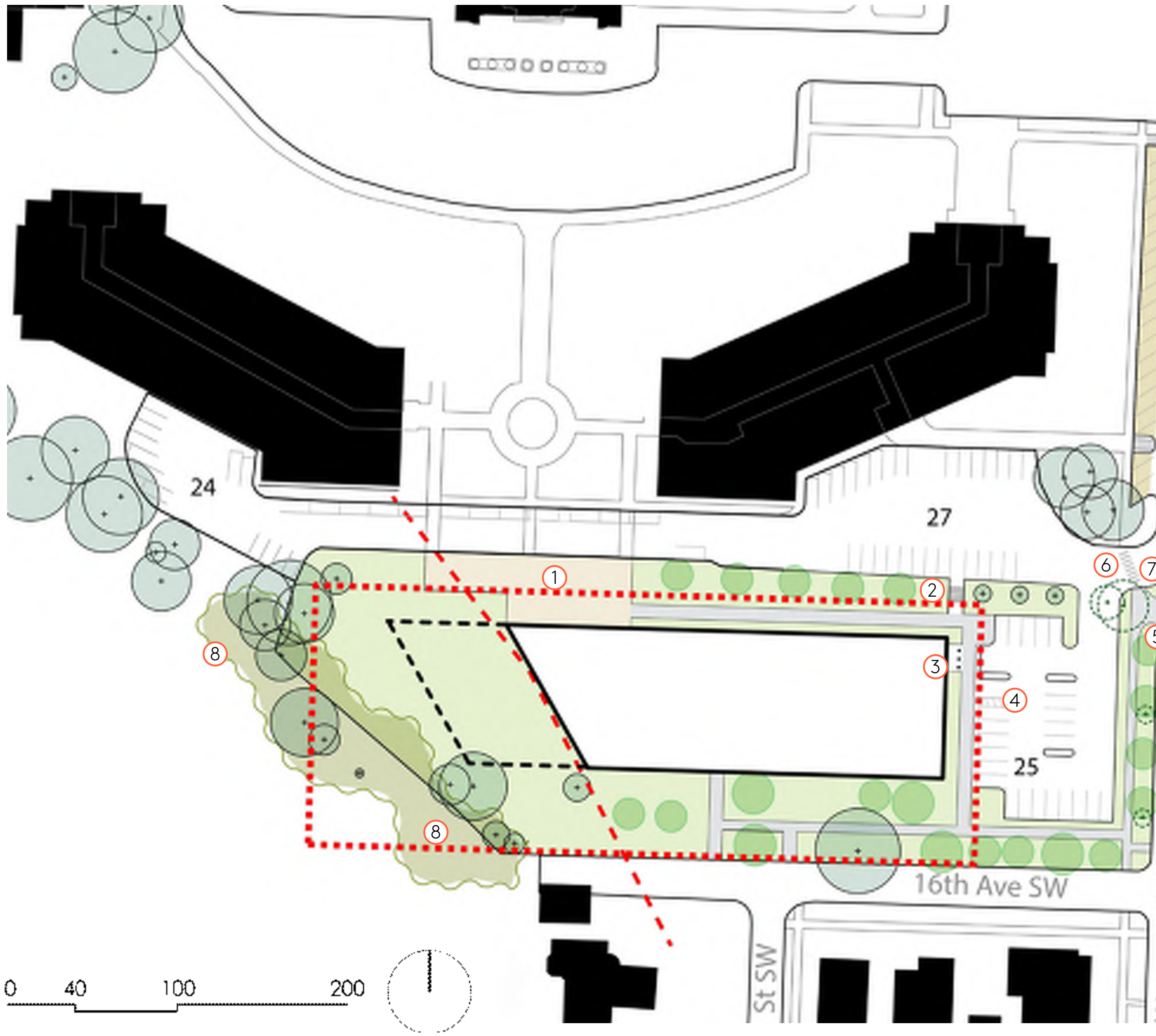
LEGEND

- Standard Gray Concrete
- Alt: Specialty Paving - permeable pavers
- Shrubs & Groundcover Plantings
- Stormwater Planting Area
- Existing Trees to remain - protect in place - reference historic landscape preservation plan
- Existing Trees - to be removed
- Proposed Trees
- Security Setbacks: 50' from ROW, 20' from Employee/Staff Parking

1. Entry Plaza with pavers, stairs, and ramp
2. Security guard station
3. Secured vehicle access gate
4. Reconfigured intersection
5. Crosswalk striping and traffic sign
6. Curb ramps with truncated domes at all street crossings
7. ADA Parking
8. Concrete retaining wall to preserve existing trees. +/- 2-3' tall.
9. Existing sidewalk to remain
10. Connection to pedestrian bridge to remain
11. Loading dock with retractable bollards
12. Concrete retaining wall +/- 10' tall.
13. Concrete retaining wall +/- 5' tall.
14. "Welcome to Capitol Campus" sign

Note: Site/landscape to be designed using principles that promote an environment that positively influences human behavior and quality of life by reducing the possibility of harm.

[FIGURE 32] PRITCHARD BUILDING SITE PLAN



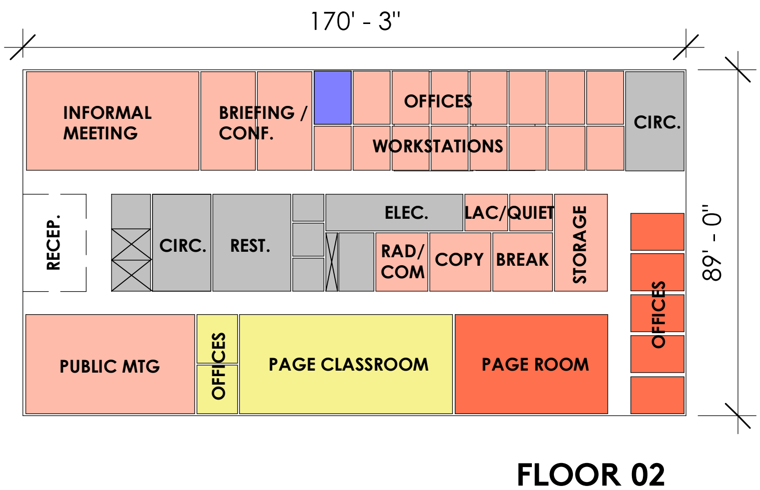
LEGEND

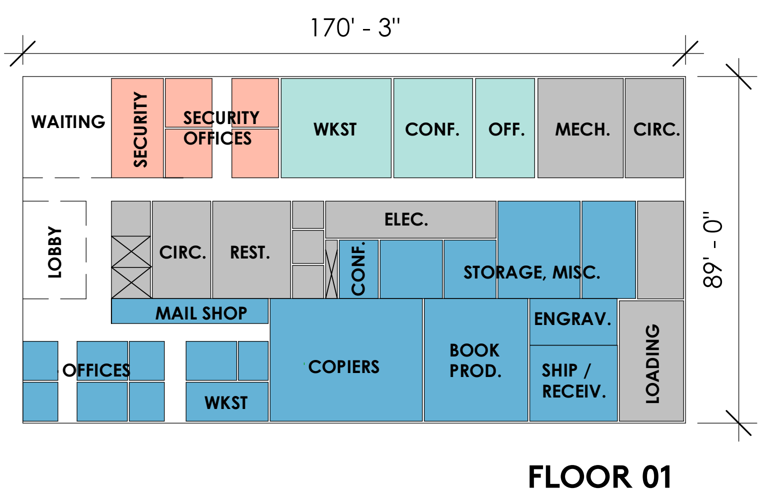
- Standard Gray Concrete
- Specialty Paving - permeable pavers
- Shrubs & Groundcover Plantings
- Stormwater Planting Area
- Existing Trees to remain - protect in place - reference historic landscape preservation plan
- Existing Trees - to be removed
- Proposed Trees
- Setbacks: 50' from ROW, 100' from Slope

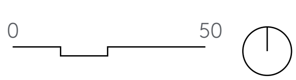
1. Entry Plaza with pavers, sculpture to be preserved
2. Existing stair, slope, and utilities to remain
3. Loading dock with retractable bollards
4. ADA Parking
5. Reconfigured intersection
6. Crosswalk striping and traffic sign
7. Curb ramps with truncated domes at all street crossings
8. Remove invasive species and enhance with restoration plantings

Note: Site/landscape to be designed using principles that promote an environment that positively influences human behavior and quality of life by reducing the possibility of harm.

[FIGURE 33] NEWHOUSE BUILDING BASIC CONFIGURATION



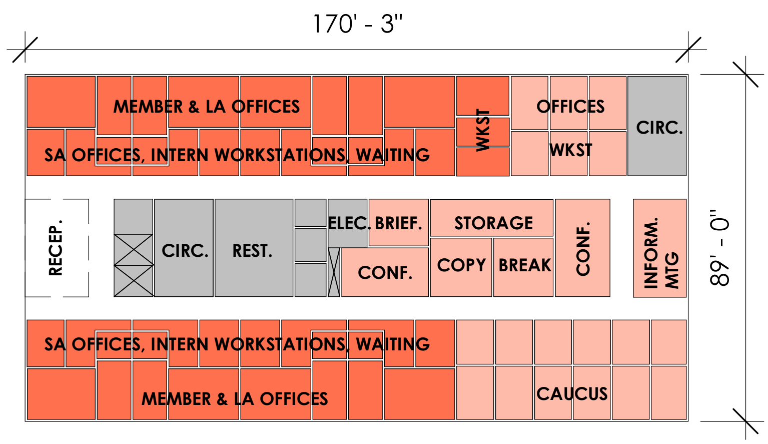




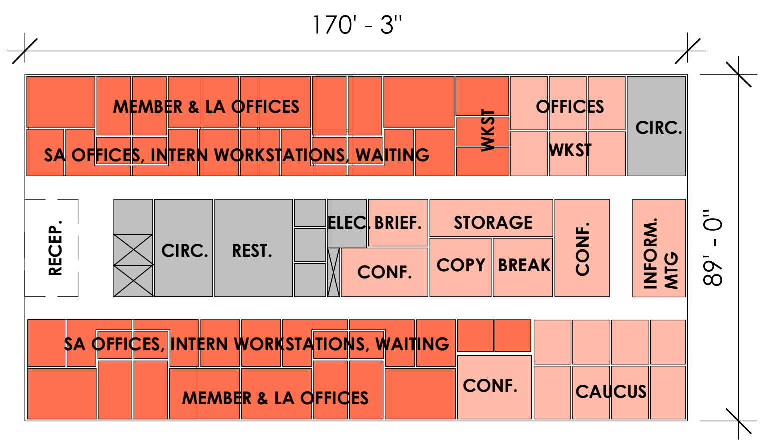
LEGEND

- Senate
- Caucus, Senate Support
- Page School
- Legislative Ethics
- LSS
- Production & Design
- Building Support

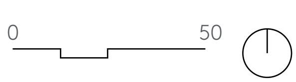
[FIGURE 34] NEWHOUSE BUILDING BASIC CONFIGURATION CONTINUED



FLOOR 04



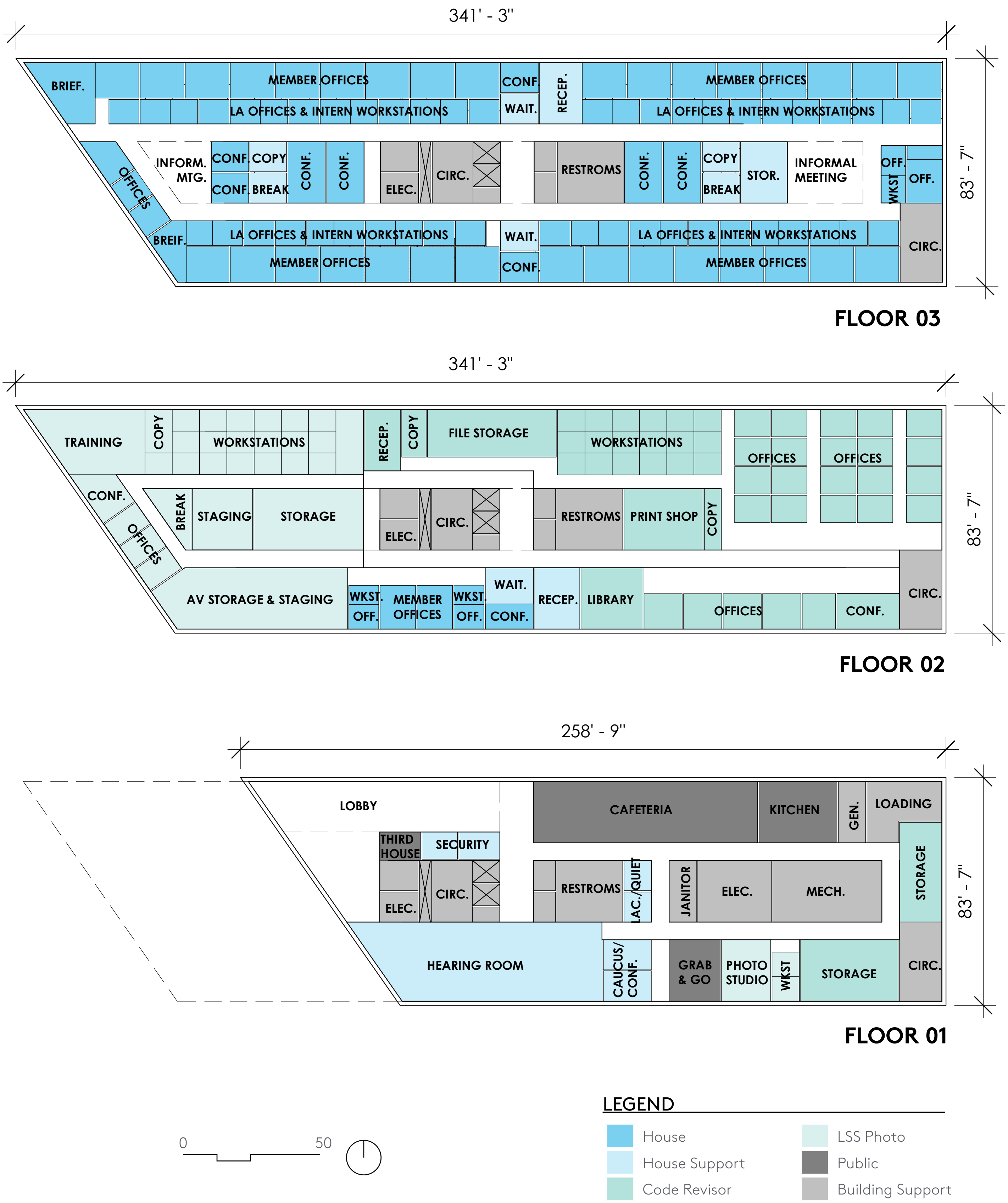
FLOOR 03



LEGEND

- Senate
- Caucus, Senate Support
- Page School
- Legislative Ethics
- LSS
- Production & Design
- Building Support

[FIGURE 35] PRITCHARD BUILDING BASIC CONFIGURATION



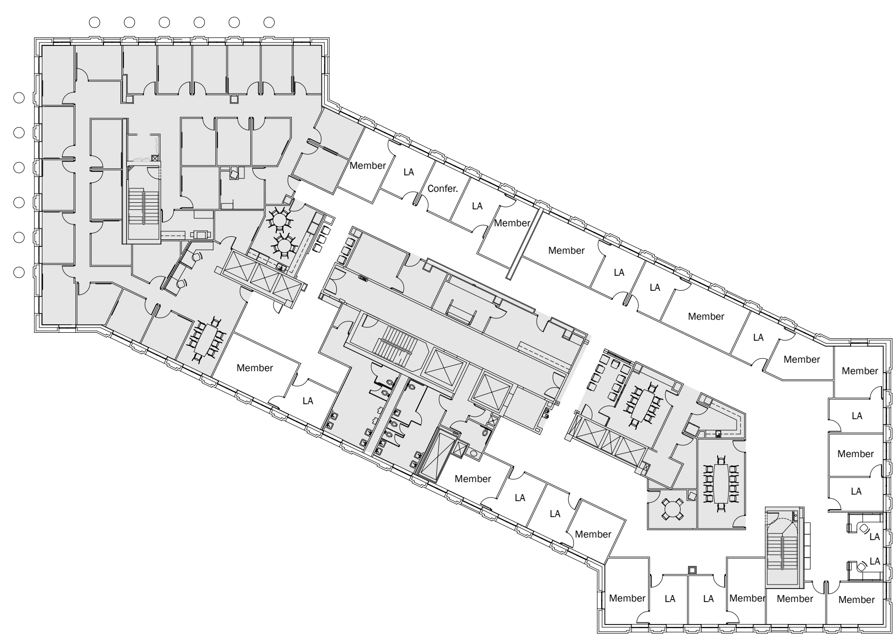
O'Brien Building Tenant Improvements

The project includes a partial alteration of the third and fourth floors of the O'Brien building to right-size member offices. This will provide 29 members and 29 staff workspaces. The 35 displaced offices will be located on the third floor of the Pritchard replacement building.

The O'Brien building cores and caucus offices would remain untouched. Reference Figures 36 and 37 for the demolition and proposed floor plans.

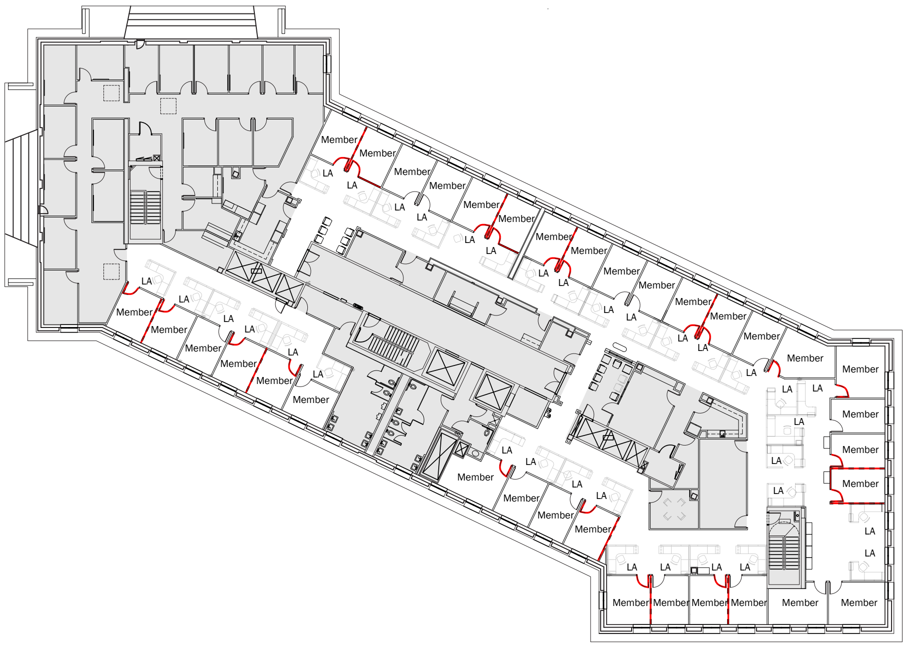
[FIGURE 36] O'BRIEN BUILDING TENANT IMPROVEMENT

FLOOR 03 DEMOLITION PLAN

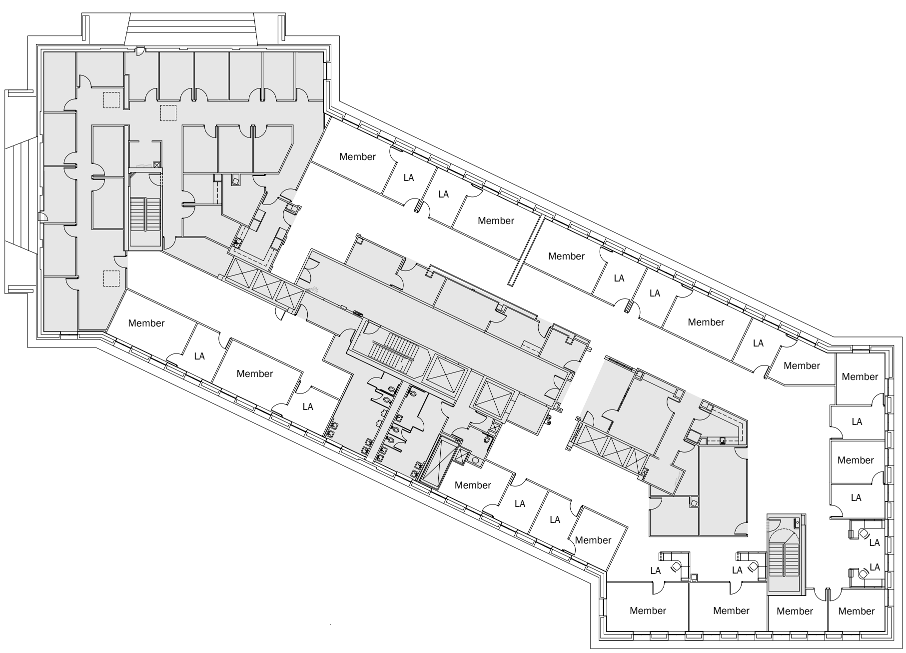


FLOOR 03 RENOVATION PLAN

[FIGURE 37] O'BRIEN BUILDING TENANT IMPROVEMENT



FLOOR 04 DEMOLITION PLAN



FLOOR 04 RENOVATION PLAN

Temporary Facilities

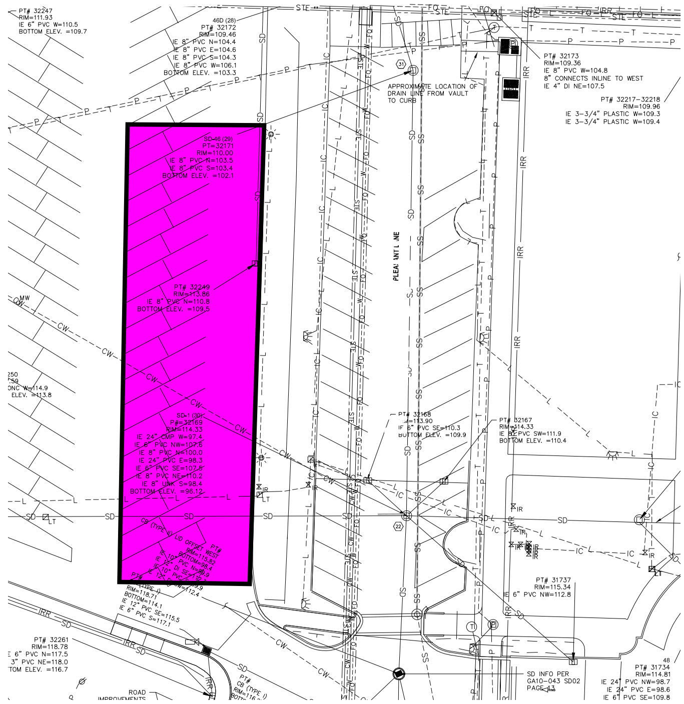
The temporary facilities are proposed to be a two story 18,000 gsf portable structure located at the east end of the Mansion Lot, situated to avoid relocating existing utilities.

There will be easy access to the Legislative building, Cherberg, and O'Brien for members and staff during construction of the Newhouse and Pritchard buildings. The corner of the Mansion Lot is approximately 540 feet to the Legislative building, 980 feet to O'Brien and 1,130 feet to Cherberg.

The budget assumes that these will be purchased modular buildings, which is discussed in the "Identified Issues for Further Study" section.

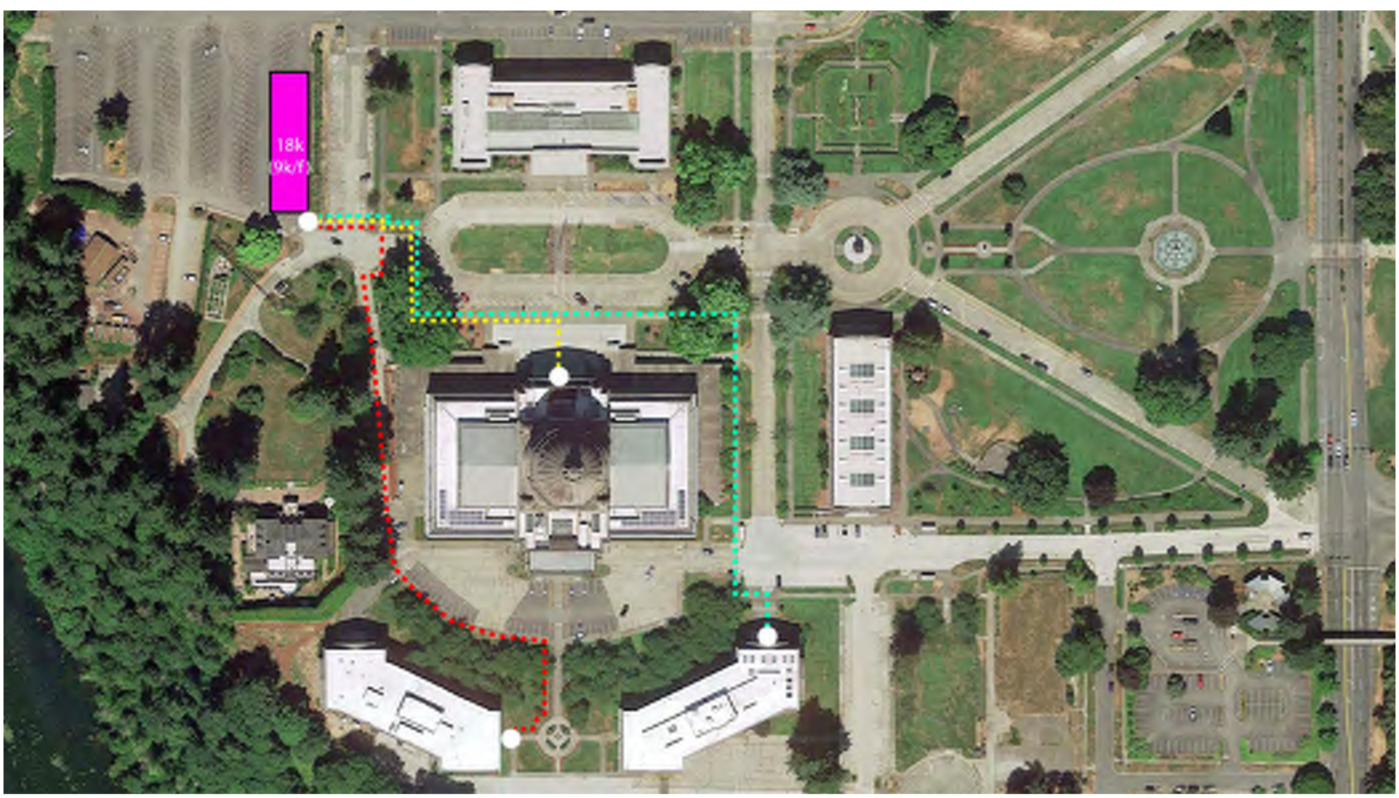
It is assumed that the Production and Design and LSS Admin space in the replacement Newhouse building will initially be used as temporary space by Pritchard occupants during construction of the Pritchard replacement building. Production and Design and LSS Admin will move in after completion of the Pritchard replacement building. No new location for LSS Admin has been allocated for the interim and will need to be identified in the design phase.

[FIGURE 39] TEMPORARY MODULAR FACILTIES UTILITIES



Proposed Temporary Facility Location

[FIGURE 38] TEMPORARY MODULAR FACILTIES LOCATION



Site Analysis

CAPITOL CAMPUS

Located in downtown Olympia, Washington, the State Capitol is an important cultural resource. Although within the city, the land is under Washington State authority.

The historic west campus was planned and designed by Wilder & White, Architects and the Olmsted Brothers. The Legislative Building forms the center of the historic capitol group, and is surrounded by the Temple of Justice, the Insurance, O'Brien and Cherberg Buildings, and the Governor's Mansion. Development was focused here through the end of the 1950s.

The Master Plan for the Capitol of the State of Washington (2006) provides an overall vision for the campus. It describes this site as a transition from the great central campus lawn to the downtown urban core. Another resource guiding campus development is the State Capitol Development Study (2017), which identifies specific opportunity sites and examines their development potential. The site for the Pritchard building is identified as Opportunity Site Five (5) and for Newhouse as Opportunity Site (6) in the 2017 Study.

[FIGURE 40] 2017 DEVELOPMENT STUDY OPPORTUNITY SITES

LOCATION

Opportunity Site 6 – Newhouse Building

Opportunity Site 6 is comprised of two blocks on the south edge of the west capitol campus. It is bounded by Sid Snyder Avenue to the north, Capitol Way to the east, 15th Avenue to the south and Water Street to the west. Columbia Street divides the site into two blocks, running north to south.

Opportunity Site 5 – Pritchard Building

Opportunity Site 5 is in a pivotal location and has significant natural and built features and is an integral part of the west campus. The Legislative, O'Brien and Cherberg Buildings are to the north. The Pritchard Building which sits on the site was the last structure to be added to the historic legislative group in the center of the west campus. It is on axis with the capitol dome and symmetrically located between the legislative office buildings. It is bounded by 15th Avenue to the north, Water Street to the east, 16th Avenue to the south and the steep, forested bluff that overlooks Capitol Lake/Lower Deschutes Watershed to the west. Opportunity Site 6 is to the east. It is a transition point to the landscape and neighborhood.

EXISTING CONDITIONS

Opportunity Site 6 – Newhouse Building

The 4-acre site consists of two blocks. The west block contains the 25,000 gross square foot Irv Newhouse Building which was built in 1934 as a temporary structure and contains Senate offices, the Carlyon House and the Ayers Duplex, known as the Press Houses, which were built in 1921 and 1936 respectively, and two parking lots that contain 64 parking spaces.

The east block contains the Visitor Information Center, which was built in 1981 as a temporary structure, and an 82-car visitor parking lot.

[FIGURE 41] PRITCHARD AND NEWHOUSE LOCATIONS

The Newhouse Building and Press Houses are eligible for the National Register of Historic Places but have not been nominated for listing. The Newhouse building is a health and life safety hazard and is not suitable for occupancy. Any improvements that extend the life of the building will trigger requirements to bring the entire building up to code. The Press Houses and Visitor Information Center do not serve their functions adequately.

Opportunity Site 5- Pritchard Building

The 1.8-acre site contains the 55,485 gross square foot Pritchard Building and a surface parking lot with 93 stalls. The Pritchard Building was completed in 1958 for the Washington State Library. Designed in a Modernist architectural style it is different in expression than the original capitol buildings but fits into and extends the historic, Beaux-Arts composition.

EXISTING ACCESS

Opportunity Site 6 – Newhouse Building

— The site is located southwest of the Capitol Way S/14th Avenue SE intersection that is the primary gateway to the Capitol Campus. A tunnel on 14th Avenue SE connects Interstate 5 and the campus. Direct access to Capitol Way S is provided by Sid Snyder Avenue SW and 15th Avenue SW.

— The site is at one end of a pedestrian bridge that connects the east and west campuses across Capitol Way S.

— Sid Snyder Avenue serves as a stop for the DASH shuttle

Opportunity Site 5- Pritchard Building

— The site is located southwest of Water Street SW/15th Avenue SW. Currently most of the traffic arrives via Sid Snyder Avenue and Water Street, with some traffic arriving via 15th Avenue SW and local neighborhood streets to the south.

— 15th Avenue SW is not aligned through the intersection with Water Street. The offset forces the crosswalk across the south leg of the intersection to land at the driveway to the Pritchard Building parking lot.

— Vehicular access to the adjacent surface parking lot is from Water Street. It serves as drop-of/pick-up areas for legislators and staff. There is some parking in front of the building along the service road.

— Pedestrians access the site from the south via the landscaped walkway east of the Pritchard Building which provides a connection between the capitol campus from the South Capitol Neighborhood Historic District. The main entry to Pritchard is from 15th Avenue. An employee entrance provides access to the building from the east.

BUILDING ORIENTATION

Both the Pritchard and Newhouse buildings are oriented with their main axis in the east west direction, maximizing solar access and minimizing heat gain.

Opportunity Site 6 – Newhouse Building

The Newhouse building has its main entry facing the Cherberg building in order to minimize travel distances for the building occupants. This façade is similar in height and width to the Cherberg east façade. The long façade will face Sid Snyder Ave SW and create a public face for the building as visitors enter the site from Capitol Way S.

Opportunity Site 5- Pritchard Building

The Pritchard building maintains its symmetrical relationship to the legislative office buildings and its main entrance is on axis with the capitol dome. This is achieved despite maintaining the required setbacks from the steep slope by cantilevering the upper floors of the building with a trussed structural system that would float the second and third floors over the setback.

GEOTECHNICAL/SOILS

The existing topography at the Newhouse building is relatively flat; however, the topography to the west of the Pritchard building includes slopes about 110 feet high and are inclined from about 1.7H:1V in the upper portion to flatter than 6H:1V at the lower part of the slope. Based on the understanding of the subsurface conditions and the site history, the site is likely susceptible to seismically induced slope instability. To satisfy the static stability requirements, it is recommended that a minimum building setback of at least 70 feet from the top of the western slope.

However, it is anticipated that slope movement could occur as far back as 100 feet from the top of the slope during the design ground motion. A setback of 100' was maintained for the design.

Liquefaction is a phenomenon in which excess pore pressure in loose, saturated, cohesionless soil increases during ground shaking to a level near the initial effective stress, thus resulting in a reduction of shear strength of the soil (i.e.. a quicksand-like condition). Effects of liquefaction include seismic-induced ground settlement, lateral spreading and slope instability, and loss of vertical and lateral foundation restraint. Based on the results of preliminary evaluations it is estimated that seismic settlement of up to 4 inches near the Newhouse building and up to 6 inches near the Pritchard building.

The geotechnical understanding of the subsurface conditions at the site based on existing data generated by previous studies at and near the project location. These reports include previous geotechnical investigations near the Pritchard building location as part of a Capitol Campus hillside stability study. The subsurface exploration used to inform the analysis of the Newhouse building is based on the nearby geotechnical explorations that were performed for the Washington State Legislative Building. A new boring was performed to augment the existing information for geotechnical information near the Newhouse Building.

EASEMENTS AND SETBACKS

The project site is within the boundaries of the Washington State Capitol Campus and is under the jurisdiction of the State of Washington, it is exempt from the City of Olympia's land use code. A 200-foot wetland buffer established by Thurston County lies along Capitol Lake. The neighborhood to the south is zoned R-6-12 Residential 6-12 units per acre.

OWNERSHIP

Both Opportunity Site 5 and 6 are within the boundaries of the State Capitol Campus. Columbia Street SW which bifurcates Opportunity Site 6 is owned by the City of Olympia and the project proposed to vacate the street as it outlined in the master plan. A line item in the budget accounts for costs related to vacating the street. An updated and title survey will be required for the design phase to document property lines, easements and extent of the State Capitol Campus boundary.

POTENTIAL SITE ISSUES

Based on the available subsurface information, the existing soils at the site include fill and native sands, silts, and clays. When encountered the fill material included loose silty fine sand and medium stiff to stiff sandy silt and clayey silt. In the existing explorations performed near the proposed buildings, the surficial fill is generally 4.5 feet thick. If unstable or unsuitable soils are discovered, it is anticipated that they will be excavated and replaced with suitable materials.

UTILITIES

Water

The City of Olympia is the water provider for the Capitol Campus. The State owns and operates the water systems in the West Capitol Campus.

Opportunity Site 6 – Newhouse Building

For the new building at the existing Newhouse Building site, water for domestic service and the building's fire sprinkler system can be provided by the existing 6-inch water main that provides water to the existing building. A new water line each for domestic service and the building's fire sprinkler system will be needed. New fire hydrants likely will not be required given that there are four existing fire hydrants nearby. For the Pritchard site, three new fire hydrants will likely be required; two to replace the existing fire hydrants on 15th Avenue and one on the back of the building near 16th Avenue.

The Capitol Campus Utility Renewal Plan recommended an additional water main be installed under 15th Avenue from Water Street to the west end. This new main will be part of the future water system improvements to increase fire flow to Cherberg, O'Brien, and the Legislative Building area.

The condition of the 6-inch CI water main on Columbia Street is unknown. Given the age of this main, it is likely reaching its design life, if it has not yet. Replacement of this 6-inch CI line with an 12-inch DI main from Sid Snyder Way to 15th Avenue, now that Columbia Street is vacated and filled up, is included as part of the project.

A flow test will need to be conducted to determine the available fire flow capacity near the two building sites during the design phase

Opportunity Site 5- Pritchard Building

For the Pritchard site, three new fire hydrants will likely be required; two to replace the existing fire hydrants on 15th Avenue and one on the back of the building near 16th Avenue. The hydrant on the backside of the building will need to be fed by the water main on Water Street through an 8-inch DI pipe. New water lines for domestic and building fire sprinkler systems will be required to service the new building. A water meter is required for the domestic service line. These water services should be provided from the water main on 15th Avenue, so they are in the downstream of the master meters and in the State-owned system.

Sanitary Sewer

Sanitary sewer service to the project site is provided by the City of Olympia. The sewer main system inside the West Capitol Campus is owned and operated by Washington State.

Opportunity Site 6 – Newhouse Building

For the new building at the existing Newhouse Building site, a 6-inch sewer service stub-out is available. Another option is to re-use the side sewer line serving the existing Newhouse Building.

Opportunity Site 5- Pritchard Building

The 6-inch existing sewer main serving the Pritchard Building is old. It was identified in the Capitol Campus Utility Renewal Plan as a "moderate risk" and is recommended to be replaced with the Pritchard Building improvements per previous assessments. An 8-inch main with a manhole on each end is likely required. Sewer service to the proposed building will be connected to this new sewer main on 15th Avenue. The condition of 8-inch combined sewer main on Columbia Street is unknown. Given the age of this clay sewer main, we recommend replacing it with a same-size PVC line.

Stormwater

Stormwater systems inside the West Capitol Campus are owned and operated by Washington State. Storm runoff from the studied sites drains either to one of the dedicated stormwater systems that discharge directly to the Capitol Lake or to a combined sewer system that connects to the city sewer main on Capitol Way. Because the stormwater detention requirement is exempt, the Low Impact Design (LID) requirement is also exempted according to the City of Olympia design standards. However, DES encourages LID implementation at the Capitol Campus. LID development approaches should be considered and applied to the project as much as practically allowed.

The West Capitol Campus Master Drainage Plan proposes bio-retention areas along the edges of the site and Columbia Street.

Opportunity Site 6 – Newhouse Building

Storm runoff from the proposed building roof at the Newhouse site, new impervious areas, and the western half of the street block will be collected by an underground drainage system and conveyed to the 12-inch dedicated storm system that runs under Sid Snyder Way near the northwest corner of the site and eventually discharges to Capitol Lake. Storm runoff from pollutant-generating impervious areas, such as driveways, will need to be treated before being discharged to the stormwater system. Detention is not required.

The area of the Press Houses, Visitor Center and the adjacent parking lot currently drain to the combined sewer main on Columbia Street. Storm runoff from these areas will be collected into a dedicated stormwater system, convey the collected water under Sid Snyder Way, and discharge to the existing storm main along the South Diagonal. The water will discharge to Capitol Lake through a dedicated stormwater system in the West Capitol Campus. Because of the capacity issue of the existing storm drainage system in West Capitol Campus, peak flow controls through an on-site detention facility is required. Water quality treatment options such as   permeable paving likely can be used in the Visitor Center area if the existing soil meets the treatment requirements. Bioretention cells with the right soil mixtures for phosphorous control can also be considered.

Opportunity Site 5- Pritchard Building

At the Pritchard site, the eastern half of the existing parking lot currently drains to a sanitary sewer system. Storm runoff from the proposed building, parking lot, and the repaved 15th Avenue will be collected into underground pipe systems and conveyed west to the existing storm system that discharges directly to Capitol Lake. Detention is not required because the dedicated stormwater system discharges directly to Capitol Lake, a flow control exempt water body.

A recent video investigation shows that the storm drainage system and the outfall are in good condition except for one section of pipe. The section of pipe, located south to the existing Pritchard Building, is heavily damaged and blocked. Replacement of the pipe is necessary if it is not fixed before the construction of this project.

Water quality treatment facilities are required for treating storm runoff from the pollutant-generating impervious areas (PGIA), such as the paved parking lots and streets. The Capitol Lake is a phosphorous-sensitive water body. Phosphorous control is required.

Because of the adjacent steep hillside and poor infiltrative site soil conditions, infiltration facilities are not recommended for this project for the Pritchard Building site. Emerging technologies like media filtration devices with phosphorous removal capacity are more suitable for this site for water quality treatment.

Natural Gas

There are no known natural gas mains near the two proposed building areas. The closed gas main is on Capitol Way. If natural gas services are required, a gas main would likely need to be extended from Capitol Way.

ENVIRONMENTAL IMPACTS

Green Space and Natural Amenities

Opportunity Site 6 – Newhouse Building

There are several significant trees on the site that are planned to be retained and care is to be provided to protect them during construction. Street trees and understory plantings will be added between 15th Ave SW and the parking lot to provide a buffer and screening for the South Capitol Neighborhood. Planting and trees that front Sid Snyder Ave SW and the great lawn should build on the historic landscape preservation plan to create a layered understory. Bioretention areas and planting are to be added along Sid Snyder Ave SW and planting should match the bioretention along the north side of Sid Snyder Way SW.

Opportunity Site 5- Pritchard Building

The site contains significant trees. A cluster of three large conifers on the north side of 15th Avenue are original to the Olmsted Planting Plan The large Bigleaf Maple along 16th Ave SW is to be retained and protected in place. Street trees and understory plantings will be added between 16th Ave SW and the parking lot to provide a buffer and screening for the South Capitol Neighborhood. Native plantings are to be added along the top of the slope on the southwest side of the site. The West Capitol Campus Historic Landscape Preservation Master Plan recommends understory planting based on the Olmsted Historic Plan. Although a layered planting approach is intended, consideration should be given to sight lines and providing a visible, safe environment.

Topography

Opportunity Site 6 – Newhouse Building

At the Newhouse Building site, surface grading efforts will depend on the final finished floor elevation. Some imported fill will likely be needed at the main entry on the north side for better ADA-compliant accessibility. Some mass grading will be needed on both sides of Columbia Street to fill the street up to the same elevations as the adjacent redevelopment areas.

Opportunity Site 5- Pritchard Building

There is a steep bluff on the west of the Pritchard building includes slopes about 110 feet high. A building setback of at 100 feet from the top of the western slope is maintained per geotechnical recommendations. Surface grading at the Pritchard site should not be significant. Some grading to create access to the parking lot from 15th Avenue will likely be required.

Phase 1 Environmental Assessment

Opportunity Site 6 – Newhouse Building

The Phase 1 Environmental Assessment revealed no evidence of Recognized Environmental Conditions in connection with the property. Additional investigation prior to property development is not warranted.

Monitoring for contaminants should be conducted during intrusive earthwork along the west property boundary to assess the potential for migration of petroleum contaminants from USTs on the west adjacent property.

Opportunity Site 5- Pritchard Building

A 125-gallon Above ground storage tank (AST) storing diesel fuel for a generator is present at on the property. No evidence of leaks or spills from the AST was observed. The AST is low environmental concern to the subject property demolition will include removal and disposal of the tank.

The Phase 1 Environmental Assessment revealed no evidence of Recognized Environmental Conditions in connection with the property. Additional investigation prior to property development is not warranted. Monitoring for contaminants should be conducted during intrusive earthwork along the northern property boundary to assess the potential for migration of petroleum contaminants from USTs on the north adjacent property.

VEHICULAR ACCESS

In an effort to secure the campus and enhance the safety of the building occupants and site, vehicular entry to the parking adjacent to the buildings should be restricted to employees, staff, authorized visitors and approved government vehicles. Change to local circulation are also proposed to improve security by limiting the number of vehicular access points to the core legislative buildings. The proposed changes include:

— **Traffic diverter at Water Street SW/15th Avenue SW intersection –** The project proposes to construct a raised diagonal diverter across this intersection from the southwest corner to the northeast corner. Campus traffic destined to park behind the O'Brien or Cherberg Buildings or on the Pritchard Lot would need to access those areas from Sid Snyder Avenue SW and SW Water Street. Local traffic from the South Campus Neighborhood could pass through the intersection and access Capitol Way via 15th Avenue SW. Accommodations for emergency vehicles could be made to cut across the diverter.

— **Vacate and reconfigure Columbia Street -** Columbia Street SW is proposed to be vacated between 15th Avenue SW and Sid Snyder Avenue SW to prevent through-traffic. This would allow for all the parking adjacent to the buildings to be secured with entry and exit controlled at two points on Sid Snyder Avenue SW. Consolidated Mail Services can adjust delivery route as needed if this section of Columbia Street is closed.

— **Controlled Access at SW Water Street –** The traffic diverter described above would force Capitol Campus vehicular traffic to access the area via SW Water Street. A security gate or booth could then be located on Water Street SW just south of Sid Snyder Avenue SW to control access to the legislative buildings.

In addition to the security benefits, the above changes would also substantially reduce cut-through traffic in the South Campus Neighborhood Historic District. This traffic would be diverted to Capitol Way S, and be accommodated by changes along that arterial. None of the changes above would affect pedestrian access or routing. The project would substantially enhance pedestrian facilities by constructing the following:

— **Continuous sidewalk on north side of 15th Avenue SW –** The vacation of Columbia Street SW and the diagonal traffic diverter would allow construction of an uninterrupted sidewalk along the north side of 15th Avenue SW between Capitol Way S and the Pritchard Building site.

— **Improved connection to pedestrian bridge –** The proposed parking lot on the Visitor Center site would improve the surface connection between the west end of the pedestrian bridge that crosses Capitol Way and the new Newhouse Building. New sidewalk connections north to Sid Snyder Avenue SW or south to 15th Avenue SW would be constructed.

— **Sidewalk improvements along Pritchard Building frontage –** There is currently no sidewalk along 15th Avenue SW west of Water Street SW. Pedestrian walkways along that road are painted on the street's pavement. The reconstructed Pritchard Building would provide a sidewalk that connects through the diagonal diverter to the improved sidewalks west of Water Street SW.

— **Other pedestrian improvements –** Additional improvements could occur along Water Street SW where the elimination of driveways to the Pritchard parking lot would allow a continuous sidewalk along the west side of that street. Other improvements could occur along the north side of the new Newhouse Building.

PARKING

Improved parking facilities on the west capitol campus should align with master plan principles related to the organizing principles of the historic landscape plan and respect the surrounding city neighborhoods:

— Maximize vehicular and service access to campus on Sid Snyder Avenue and 11th Avenue. Enhance the sense of arrival at the intersections with Capitol Way with signage, landscape and architectural elements.

— Minimize vehicular and service access on 15th Ave SW, at the transition between the south edge of campus and the historic residential neighborhood.

— Direct access to surface and/or below grade parking at the south edge of campus from Sid Snyder Way to Columbia Way.

— Locate access to loading docks, service areas and below grade garages on secondary building facades

The LCM project will reduce the number of parking stalls in the Southwest Campus area from 350 to 293 stalls. In the foreseeable future, the LCM project is expected to accommodate the same number of legislators and staff who already work in this area of the campus. The only anticipated potential increased need for parking will be employees who work in Production and Design, a new space that would be located in the Newhouse replacement building. This unit is expected to have fewer than 10 employees, and the additional need will not be until the end of CY 2027. Figure 42 summarizes the location of the existing and proposed parking supply.

Overall, the LCM project could result in a net deficit of 57 parking stalls on the Capitol Campus. The COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are currently working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in everyday employee parking demand would open up parking capacity to use during the peak times when the legislature is in session. Therefore, it was decided that no additional parking beyond the proposed 257 stalls be constructed as part of this preferred alternative. Parking management strategies would need to be updated with the new LCM project, including determining how parking will be allocated among various users. It is recommended that visitor parking remain proximate to the legislative buildings to prevent overspill parking in the adjacent neighborhood.

The largest increase in parking supply would be on the Visitor Center and Press House Lots. These lots have the most convenient access to Capitol Way S and Interstate 5 via 14th Avenue SE. Parking reductions are planned for lots on the east side of the area and closest to the Capitol Building. These changes combined with

[FIGURE 42] PARKING STALL COUNT

LOCATION	EXISTING STALLS	PROPOSED STALLS	
Visitor Center Lot	82	129	201
Press House Lots	48	72	
Newhouse Circle	16	0	
Water Street SW	43	26	
South of Cherberg	34	27	
South of O'Brien	24	24	
Pritchard Lot	93	25	
South of Pritchard	10	0	
Total	**350**	**293**	

the traffic changes described previously would greatly reduce vehicular traffic in the densest areas of the Capitol Campus and improve the pedestrian experience in those area.

CONSTRUCTION IMPACT ON SURROUNDINGS

During construction, there will be some disruption to parking and access and there will be some added noise to the neighborhood which may be disruptive to the residents and occupants of adjacent campus buildings.

We anticipate that construction activities on the Capitol Campus will have noise and vibration limitations; therefore, we assume that drilled shafts will be the preferred deep foundation option. This construction method greatly reduces the construction induced noise and vibration as compared to pile driving activities but will still have some impact on the adjacent buildings.

Conformance with Master Plan

MASTER PLAN FOR THE CAPITOL OF THE STATE OF WASHINGTON, 2006

The 2006 Master Plan for the Capitol of the State of Washington broadly provides a framework for development of the campus through a values-based approach. It stresses facility values of function, context, and durability throughout its principles, policies, guidelines, and plans.

Principle 1 - Public Use and Access

Policies and values within Principle 1 focus on keeping buildings and venues on the campus available to the public for the use of free speech, events, and education that promote the culture and remember the history of the region. There is interest in heightening security in public buildings without it feeling intimidating or intrusive to visitors. Barrier-free access is also important in making the spaces available to all.

For a secure office building for the legislators, the entire building cannot be accessible by the public. However, the lobby should be welcoming, and it should be secure without being intimidating to users. The placing of publicly accessible functions such as the lobby, food service, and other shared meeting spaces on the ground floor outside of security checkpoints, supports a sense of public access and permeability without minimizing security. The main entrance should be easily identifiable and indoor/outdoor should encourage public accessibility.

Principle 2 - Delivery of Public Services

Principle 2 evaluates the highest and best use of locations on campus.

Master Plan Policy 2.1 dictates that new buildings on the south edge of the west campus should serve functions critical to activities in the Legislative Building. The South Capitol Neighborhood Historic District is immediately adjacent to the south. Views corridors and pedestrian access between the neighborhood and campus are part of the original Olmsted Plan.

Principle 3 - Community Vitality

This principle addresses prevention of urban sprawl, transportation, and environmental stewardship. It outlines Preferred Development Areas to encourage development to stay consolidated within the campus and site buildings close to mass transit hubs. The Transportation Demand Management policy encourages parking and transit enhancements. The legislative offices will be located on campus with easy access to transit lines, encouraging staff to limit their dependence on single occupant vehicles. The environmental stewardship policy pushes for low-impact site development practices such as limiting stormwater runoff, recharging aquifers, and beautifying public grounds.

Principle 4 - Historic Preservation

Historic Preservation identifies the importance of the state capitol in extending Washington's historic and cultural legacy. It calls for historic preservation practices for long term management in order to preserve the buildings and grounds. Each site intended for use should undergo an assessment to establish what historical resources are present, what value do they have, what is the necessary approach to care for or preserve, and what are the strategies/funding in place for ongoing care.

Principle 5 - Design

Design guidelines help define the character and quality of new buildings on campus. They encourage new state buildings to represent the "best architectural and technical examples of the era in which they are created." All buildings should maintain and enhance view corridors on campus and perimeters should create both visual and physical transitions. Improvements should be both vehicle and pedestrian friendly. Guidelines specific to West campus address materials, color, scale, and general design. The materials should be contemporary in appearance, such as concrete and glass curtain walls, and of high quality. Wood, stucco, or economy building materials should not be used as primary construction materials, and should be considered carefully if used on the exterior of the building. Generally, light sandstone colors should be used, only accented with dark or contrasting colors in special situations. The height should not exceed existing buildings above the main plaza. Overall, the character should remain contemporary while unifying the architecture with consistency in landscaping. Universal access should be implemented in all state facilities.

2007 SOUTH EDGE SUB-CAMPUS PLAN

Opportunity Site 5 and 6 are adjacent to the area defined by the 2007 South Edge Sub-Campus Plan. Because the South Edge Plan describes the opportunities for cohesive development of the south edge of the west capitol, its principles should be considered in the development of the sites. The plan calls for the design of buildings on the south edge to maintain the prominence of the Legislative Building, continuing the spatial organization, view corridor, design elements and functional relationship of the historic capitol group.

Opportunity Site 6 has significant views of the Legislative Building and the Greensward (the central lawn) on the west capitol campus. The West Capitol Campus Historic Landscape Preservation Master Plan addresses Opportunity Site 6. It identifies the important views of the Legislative Building and the north facades of the O'Brien and Cherberg Buildings from Sid Snyder Avenue, which may affect building setbacks from the street. It proposes a continuous canopy of trees along Water and Columbia Streets to enhance the connection between the capitol and the neighborhood.

STATE CAPITOL DEVELOPMENT STUDY, 2017

In 2017, the State Capitol Development Study identified and analyzed opportunity sites on the capitol campus. It suggested the following needs for the campus:

— Additional office space to alleviate overcrowding

— Consolidated visitor center to improve individual and groups' engagement with the government

— Swing space during renovations of current office buildings

The site for the Pritchard building is identified as Opportunity Site Five (5) and for Newhouse as Opportunity Site (6) in the 2017 Study.

CITY OF OLYMPIA COMPREHENSIVE PLAN, 2014

Most recently updated in 2014, the City of Olympia Comprehensive Plan set goals and policies that provide high-level direction for decision making by the city and community. It operates with the expectation that 20,000 people will join the Olympia community over the next twenty years. The main goal is to preserve a sense of place and connections within the city, maintaining a "small-town feel." It calls out walkable neighborhoods, historic buildings, and views of mountains, the Capitol, and Puget Sound as crucial elements to protect. Aligning with master principles, a few of the key challenges it addresses involve prioritizing the health of the environment. Olympia can continue to show leadership in becoming a more sustainable city by evaluating life-cycle benefits of city investments. Conserving and protecting natural resources and addressing climate change and sea level rise are also prioritized.

Laws and Regulations

CITY OF OLYMPIA MUNICIPAL CODE

The site is located within the State Capitol Campus boundary. The Washington State Capitol Committee alone has authority over land use for the State Capitol Campus. Land use standards do not apply to the capitol campus. Public works engineering standards apply to modifications of the right of-way, including frontage improvements and traffic impact fees, but do not apply on the site itself.

Parking Standards

Parking requirements are part of the land use code, which does not apply to the capitol campus. However, it is a warrantable standard to reference. For office facilities, the city requires 3.5 parking per one thousand gross square feet of building, as well as a minimum of 1 per 5000 GSF for long term and 1 per 5000 GSF for short term bicycle spaces. If an owner would like to alter the number of spaces by more than ten percent, a parking modification request is required. This request includes describing alternative transportation strategies, demonstrating the site's accessibility and proximity to transit, bicycle, and pedestrian infrastructure, and identifying any negative effects on adjacent uses. Greater than a 40 percent reduction requires the Hearing Examiner's review and approval. On-street parking can be credited as part of the count for every twenty linear feet of abutting right-of-way in a non-residential zone.

INTERNATIONAL BUILDING CODE

The building must comply with the current Seattle Building Code (SBC). An update from the 2015 to the 2018 building code is anticipated for February 2021.

Occupancy

Per Section 304 in the 2018 IBC, both proposed buildings would be considered a Group B Business occupancy. The project will contain spaces that would classify as Assembly Group A, and Storage Group S.

Fire Protection

Automatic sprinklers will be required for this project. Per IBC 2018. Section S903.2.11.3 automatic sprinklers are required for buildings 55 feet or more in height and have one or more stories with occupant load over 30 or more located 55 feet or more above the lowest level of fire department access.

Type of Construction

Type II non-combustible construction is anticipated for both buildings.

Fire Resistance Requirements

The fire resistance ratings required for Type II buildings are described in Figure 43.

Height and Area

Type II non-combustible construction allows a maximum of 6 stories above grade and a maximum height of 85' if fully sprinklered. The allowable building area is a maximum of 840,750 GSF. The anticipated buildings are below these height and area limits.

Egress

The occupant load factor for an office in the IBC is 150 gross square feet per person. The replacement Pritchard building, at 18,225 GSF on the first floor and 24,536 GSF on each upper floor, has 122 occupants on level one and 164 occupants for levels two and three. At 15,150 GSF per floor, the Newhouse building has 101 occupants on each level.

Code requires that for every 1-500 occupants there shall be a minimum 2 exits based on occupancy per floor. The exit access travel distance should not exceed 300 ft with sprinklers. Corridors that serve less than 50 occupants must be at least 36 inches wide, and any others must be at least 44 inches wide. Dead-end corridors shall not exceed 50 feet.

[FIGURE 43] FIRE RESISTANCE RATING

SYSTEM	RATING (TYPE IIA)	RATING (TYPE IIB)
Structural Frame	1 HR	0
Bearing Walls – Exterior	1 HR	0
Bearing Walls – Interior	1 HR	0
Non-bearing Walls-Exterior	0	0
Non-bearing Wall-Interior	0	0
Floors	1 HR	0
Roof	1 HR	0

Minimum Plumbing Fixtures

An occupant load of 164 occupants per full floor for Pritchard and 101 occupants per floor for Newhouse is assumed for this predesign. A Group B, business, occupancy requires one toilet for every 25 occupants for the first 50, and 1 toilet per 50 occupants for the remainder exceeding 50. Per floor there is a minimum requirement of 3 male and 3 female toilets in Pritchard and 2 of each in Newhouse. A Group B occupancy requires 1 lavatory for every 40 occupants per the first 80 and 1 lavatory per 80 occupants for the remainder exceeding 80. Each floor would require a minimum of 3 male and 3 female lavatories in Pritchard and 2 each in Newhouse. A group B occupancy requires 1 drinking fountain for every 100 occupants. Each full floor would require 2 drinking fountains.

DES FACILITIES DESIGN GUIDELINES AND CONSTRUCTION STANDARDS

The Department of Enterprise Services Facilities Design Guidelines and Construction Standards outline standard operating practices and materials for state owned facilities. The guidelines promote sustainable, universally accessible, energy efficient, high quality buildings and clean, comfortable, healthy work spaces. Highlights of the guidelines include:

— Follow the latest requirements for ADA implementation

— Building services must be efficient and ideally transparent to occupants and public

— Integration of DES Capitol Security Framework and DHS inter-agency security committee risk management process to support a comprehensive protective facility design.

— Mechanical noise is to conform to noise criterion curve not to exceed NC-35

— Provide a maximum of 50 square feet of custodial storage space as near to restrooms as possible with floor mounted sink, floor drain, duplex outlets

— Requirements for restrooms include wall hung water closets, specified accessories, free standing trash receptacles

— Capitol Campus projects are subject to review and approval of the Capitol Campus Design Advisory Committee (CCDAC) and State Capitol Committee (SCC), in that order. CCDAC will make a recommendation to SCC. Design progress shall coordinate with their quarterly meetings throughout the process for updates and approvals.

— The guidelines and construction standards also include administrative instructions for review processes that need to be followed, as well as a set of specifications to be used.

HIGH PERFORMANCE BUILDINGS

The project is targeted to several energy performance and conservation resource requirements.

— ESSB 6248 Section 1027 Chapter 356, Laws of 2020 defines specific requirements for this project that include high performance buildings and net zero-ready standards; energy use intensity (EUI) no greater than 35; a performance-based procurement method

[FIGURE 44] NEWHOUSE REPLACEMENT LEED SCORECARD SUMMARY*

YES	MAYBE	UNLIKELY	NO	CATEGORY	TOTAL POINTS AVAILABLE
1	0	0	0	Integrative Process	1
6	6	2	17	Location and Transportation	16
3	4	1	1	Sustainable Sites	10
4	1	0	2	Water Efficiency	11
11	7	0	10	Energy and Atmosphere	33
9	3	0	1	Materials and Resources	13
8	2	3	0	Indoor Environmental Air Quality	16
6	0	0	0	Innovation	6
2	1	1	0	Regional Priority	4
50	**24**	**7**	**31**	**TOTAL**	**110**

* LEED Certified: 40 - 49 points, Silver: 50 - 59 points, Gold: 60 - 79 points, Platinum: 80 - 110

such as design build and an energy performance guarantee that compares actual performance data with the energy design target.

— Chapter 39.35D.030 RCW defines requirements for projects receiving state funding that include at minimum LEED Silver certification. The current United States Green Building Council (USGBC) LEED standard is v.4 Silver certification requirements. Reference Figures 44, 45 and 46 for the LEED scorecard summaries for each of the LCM projects.

— Executive Order 18-01 which requires that newly constructed state-owned (including lease-purchase) buildings be designed to be zero energy or zero energy capable and include consideration of net-embodied carbon.

These targets will reduce energy consumption by twenty to fifty percent compared with the code required baseline and reduce carbon emissions.

[FIGURE 45] PRITCHARD REPLACEMENT LEED SCORECARD SUMMARY*

YES	MAYBE	NO	CATEGORY	TOTAL POINTS AVAILABLE
1	0	0	Integrative Process	1
5	9	17	Location and Transportation	16
3	5	1	Sustainable Sites	10
4	4	2	Water Efficiency	11
14	9	10	Energy and Atmosphere	33
9	5	0	Materials and Resources	13
6	0	0	Indoor Environmental Air Quality	16
6	0	0	Innovation	6
3	1	0	Regional Priority	4
53	**36**	**31**	**TOTAL**	**110**

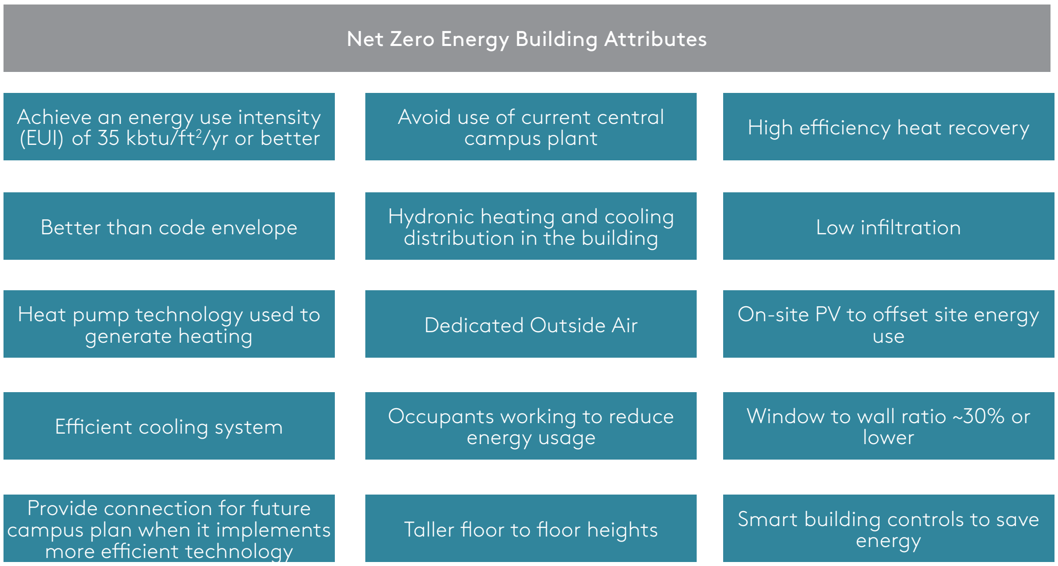
* LEED Certified: 40 - 49 points, Silver: 50 - 59 points, Gold: 60 - 79 points, Platinum: 80 - 110

[FIGURE 46] O'BRIEN RENOVATION LEED SCORECARD SUMMARY*

YES	MAYBE	NO	CATEGORY	TOTAL POINTS AVAILABLE
1	0	0	Integrative Process	1
5	9	17	Location and Transportation	16
3	5	1	Sustainable Sites	10
4	4	2	Water Efficiency	11
14	9	10	Energy and Atmosphere	33
9	3	1	Materials and Resources	13
8	5	0	Indoor Environmental Air Quality	16
6	0	0	Innovation	6
3	1	0	Regional Priority	4
53	**36**	**31**	**TOTAL**	**110**

* LEED Certified: 40 - 49 points, Silver: 50 - 59 points, Gold: 60 - 79 points, Platinum: 80 - 110

[FIGURE 47] NET ZERO ENERGY BUILDING ATTRIBUTES



OTHER CODES AND REGULATIONS

Chapter 70A.45.080 RCW

This RCW adopts policies to reduce greenhouse gas emissions and should be considered during design. Close proximity to public transit and biking routes further decreases the dependency on traveling via car.

Chapter 39.04 RCW

This RCW applies to public works projects. It includes rules for adjusting bid prices and requires work to be executed according to the prepared plans. Follow instructions within this RCW about record keeping, filing, and other administrative details for cost estimates, contracts, and project documentation. Whenever practicable, reuse or recycles materials from demolition. Special attention should be given to product standards for State Capitol improvement for construction projects and factor in the state's preferences for use of recycled content products and adhering to the adopted federal product standards for building products and materials.

Chapter 39.10.340 RCW

This RCW notes that a general contractor/construction manager (GC/CM) approach can be used for public works projects when the project meets one of the following:

— Involves complex scheduling, phasing, or coordination

— Involves construction at a facility that must remain operational during construction

— Involvement of the GC/CM during the design phase is critical to the success of the project

— Requires specialized work on a historically significant building

— A heavy civil construction project

Complex scheduling and coordination throughout the process of the LCM project qualifies it for this delivery method.

Chapter 43.19 RCW

This RCW pertains to the Department of Enterprise Services and gives custody and control of Capitol buildings and grounds to the director. It addresses energy use of buildings, facilities, equipment, and vehicles that are owned and leased by the state government. Because they consume significant amounts of energy and the state should serve as an example of energy use efficiency to citizens, projects must undertake aggressive program to reduce energy use. Measures within the program include:

— Insulation

— Storm windows and doors, multi-glazed windows and doors, reductions in glass area, other window/door system modifications

— Automatic energy control systems

— Solar space and water heating, solar electric generating systems

— Efficient devices

— Caulking and weather stripping

— Replacing/modifying light fixtures

— Energy recovery systems

Additionally, the purchase of clean technologies should be investigated.

Chapter 43.34 RCW

The Capitol Campus Design Advisory Committee reviews plans and designs affecting state capitol facilities. They examine compliance with master plan and adopted design concepts and the design, siting, and grouping of facilities relative to needs and impact of local community's economy, environment, traffic patterns.

Chapter 43.82 RCW

The predesign process is required for a request to building facilities that will house new state programs.

WAC 200-230-020, Chapter 43.17.070 RCW

The state capitol committee grants final approval for all developments plans for state capitol grounds including the master plan, and for the design and site of major works is be located on state capitol grounds.

Chapter 43.88.0301 RCW

As part of the predesign process, questions in RCW 43.88.0301 must be responded to with yes or no answers.

For proposed capital projects identified in this subsection that are located in or serving city or county planning under RCW 36.70A.040:

— Is proposed capital project identified in the host city or county comprehensive plan, including the capitol facility plan, and implementing rules adopted under chapter 36.70A RCW: Yes

— Is project located within adopted urban growth area? Yes

— If so, does the project facilitate, accommodate, or attract planned population and employment growth? Yes

For proposed capital projects identified in this subsection that are requesting state funding:

— Was there regional coordination during project development? No

— Were local and additional funds leveraged? No

— Were environmental outcomes and reduction of adverse environmental impacts examined? Yes

Chapter 90.58 RCW

This RCW pertains to the Shoreline Management Act of 1971. Thurston county GIS mapping indicates there are no designated wetlands beyond the high water mark of Capitol Lake there. For the purpose of this predesign, it is assumed no disturbance will occur to the vegetation on the hillside except to remove invasive species and add restoration planting. The removal and replacement of the Pritchard building will likely require in place mitigation of any disturbed vegetation.

Based on Thurston county GIS mapping, there are no designated wetlands beyond the high-water mark of Capitol Lake adjacent to the project site. The southwest slope of the Pritchard site, between the site boundary and Capitol Lake, may be designated a Marine Bluff Hazard Area because this slope is over 50%. The Marine Bluff Hazard Area requires a minimum top of slope buffer of 50 feet. The existing west parking area encroaches on the 50 foot buffer. The proposed alterations to this parking area includes improvements but does not expand the parking area. There may be requirement to mitigate the area that encroaches on the buffer but that would need to be determined through future coordination with the county.

No disturbance will occur to the vegetation on the hillside except to remove invasive species and add restoration planting.

Archaeological and Cultural Resources

The Pritchard building is listed on the National Register of Historic Places. Designed by Seattle-based architect Paul Thiry at the height of his career, it was originally built as the Washington State Library and completes the south end of the original Wilder and White Capitol Group Master Plan. Its use of Wilkeson Sandstone on the exterior and public interior space creates a southern boundary for the historical campus architectural group. According to the Historic Structures Report, "the design integrity of the State Library Building is anchored by its orientation and compositional reference to the form of the central Legislative Building"

Character defining spaces and features include:

— Massing, consisting of low front volume and tall rear stack
— Wilkeson sandstone cladding
— Rhythm of window openings along the front volume
— Artwork commissioned as part of the original building construction
— Washington Room in the basement
— Waffle slab stack design

The applicable National Register Criteria are that the property is associated with events that have made a significant contribution to the broad patterns of our history, embodies the distinctive characteristics of a type, period, and method of construction and represents the work of masters. It was the first building designed specifically for the Washington State Library as the single tenant to communicate the significant functional relationship between the library and the state legislature. The building is an exceptional example of the use of Modern design to integrate with and complete the Neoclassical Capitol group and shows the advanced use of modern waffle slab technology. Prominent Northwest artists Mark Tobey, Kenneth Callahan, Everett G. DuPen, James FitzGerald, and John W. Elliott were commissioned to design permanent site-specific artworks for the building. FitzGerald provided a mosaic wall near the entry, the forms of the marble tiles of which are suggestive of Washington's native forests. The Washington Room features Callahan's 3'-8" high by 170' long mural depicting Washington's history and a collection of Pacific Northwest materials from notable authors.

American with Disabilities Act

The Americans with Disabilities Act establishes design standards to ensure access to facilities for building with disabilities. The project will follow state requirements for adhering to ADA architectural standards per Executive Order 96-04. Discrimination against an individual on the basis of disability is prohibited and meaningful access to state services, programs, activities, and employment opportunities must be provided.

State Environmental Policy Act (SEPA)

The State Environmental Policy Act (SEPA) requires an environmental review for any proposal involving government action. It is a tool to help ensure environmental values are considered in state and local agency decision-making and helps demonstrate how a project will affect the environment. It serves four main purposes:

— Declare a state policy which will encourage productive and enjoyable harmony between people and their environment.
— Promote efforts which will prevent or eliminate damage to the environment and biosphere.
— Stimulate public health and welfare.
— Enrich the understanding of the ecological systems and natural resources important to Washington and the nation.

A SEPA review will be required in the design phase.

Identified Issues for Further Study

ROUNDABOUT AT CAPITOL WAY S/14TH AVE SE

The City of Olympia has a long-term vision to install a roundabout at the intersection of Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection; however, no analysis or design has yet been prepared by the City.

The proposed LCM project is not expected to increase traffic in the foreseeable future since the buildings are being designed to accommodate staff who already work in close proximity to the site.

The LCM project proposes several street changes to discourage neighborhood cut-through traffic and increase security on the Capitol Campus. The key changes include constructing a diagonal traffic diverter at the Water Street SW/15th Avenue SW intersection; and reconfiguring Columbia Street. Together, these changes would require all campus-related traffic to access and egress the area using Sid Snyder Avenue

SW or streets further north. Neighborhood traffic could use 15th Avenue SW or streets to the south to access Capitol Way S. The analysis determined that these changes would not adversely affect traffic operations at intersections along Capitol Way S, and intersections along Capitol Way S would continue to operate at LOS E or better, which is an acceptable level of service for this arterial. The design of these traffic features should provide for emergency access using bollards or break-away barriers, and allow unfettered pedestrian access. Reference the Transportation narrative in the Appendix for additional detail.

Further traffic analysis will be completed in the design phase for the SEPA process. Based on preliminary predesign traffic study analysis, the preferred alternative does not include funds for a roundabout. The need for a roundabout will be part of the design phase, and if the City insists on a roundabout during the permitting process additional funds will need to be identified. The current estimate for a roundabout is $6-8M.

PARKING

ESSB 6248 states that, "The amount of parking on the capitol campus remains the same or increases as a result of the legislative campus modernization construction projects." Overall, the LCM project could result in a net deficit of about 65 parking stalls (a decrease of 57 stalls plus a slight increase in demand associated with Production and Design), which would need to be found elsewhere on the Capitol Campus.

The COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in everyday employee parking demand would open up parking capacity to use during the peak times when the legislature is in session.

A parking deck located on the south-east corner of opportunity site 6 was studied during the predesign but not included in the budget due to anticipated future parking efficiency due to working from home. The proposed plan includes a total of 293 parking stalls in the southwest campus area, which reflects a net loss of 57 spaces compared to current conditions.

SIGNIFICANT TREES

The following trees are to be retained and protected in place: 13-15 (adjacent to Water St SW) 13-47, 13-46, 13-45, 13-44 (Adjacent to 15th Ave SW), 13-37, 13-39 (adjacent to Columbia St SW), 13-23, and 13-1 (in the northeast corner of the site). Tree 13-15 is a significant tree that was noted as in fair condition and tree 13-23 was noted as poor when surveyed in 2008. Because of the proximity to demolition and construction activities, these trees should be surveyed again in order to determine the feasibility of preserving them during construction. Because the trees were surveyed in 2008, they should be resurveyed to establish their current condition and determine the feasibility of preserving them during construction. If the tree is to be removed, it shall be replaced with a specimen tree that is informed by the Landscape Preservation Master Plan. All demolished trees shall be replaced at a minimum of 1 for 1 with new trees. All proposed tree species should be informed by the historic preservation plan recommendations for new trees in this area. Reference the narrative and diagrams in the Appendix for further information.

VACATION OF COLUMBIA STREET SW

Columbia Street SW is proposed to be vacated between 15th Avenue SW and Sid Snyder Avenue SW to prevent through-traffic. A preliminary meeting was held with the City of Olympia and the plan was reviewed by the Transportation Engineer and City Surveyor.

The vacation process will need to be initiated during the design phase and the process of vacating the street could take up to six months.

— An easement will need to be established to access the utilities under Columbia St SW

— A preliminary traffic study has been performed but a detailed analysis will be needed to determine the impacts of the street closure.

— A Certified Properties Owners List will be required from Title Company. A preliminary estimate for the property is provided under the acquisition tab of the C-100.

— An appraisal will be required, and it needs to be approved by the City Council.
— The city attorney needs to review forms before it goes to Council.
— Application can be made online at the city's permit portal.

DAHP MITIGATION PLAN

Two meetings were held with DAHP during the predesign phase and an understanding was reached that Newhouse, Press Houses, and the Pritchard building would be demolished as part of the LCM project. Possible mitigation options were discussed but a mitigation plan will need to be developed in the design phase and a memorandum of understanding will need to be negotiated with DAHP. The construction cost estimate includes money for the salvage and relocation of the Fitzgerald Mosaic and Callahan Mural as part of mitigation measures. There is also a Mark Tobey painting in the Pritchard Building that will need to be stored for the duration of construction and reinstalled in the new building. The project budget also carries a line item for historic mitigation that can be used towards other mitigation measures as a plan is developed that addresses Newhouse, the Press Houses, and O'Brien in addition to the Pritchard Building.

ON-SITE SOLAR

The project has a goal to achieve net zero ready. In order to achieve this, on-site power generation is needed with photovoltaic (PV) panels. A 80Kv rooftop PV array is budgeted for both the Newhouse and Pritchard Buildings. The current medium voltage campus loop only has 160 kW of remaining PV capacity that the utility (PSE) will allow to be fed back onto the loop without requiring protective relays and utility approval. Confirmation of capacity at time of system design and coordination with PSE will be required.

HAZARDOUS MATERIALS

The demolition of the Newhouse and Pritchard buildings will require asbestos abatement. A hazardous materials survey report will need to be completed to quantify scope and provide recommendations for proper abatement and disposal of materials.

GEOTECHNICAL ANALYSIS

The geotechnical analysis is preliminary and for predesign purposes only. It was based on existing subsurface information and a detailed geotechnical analysis including additional subsurface exploration, laboratory testing, including soil borings with downhole geophysical testing and cone penetration test (CPT) explorations will be required during the design phase. Based on the subsurface conditions and seismic hazards of the site a site-specific ground motion analysis will be required per 2018 IBC for final design.

SITE SURVEY

Additional site survey information is needed for the Visitor Center Lot and a title search and documentation of legal boundaries will need to be performed in the design phase.

TEMPORARY FACILITIES

The temporary facilities were assumed to be two story 18,000 gsf portable structure located at the east end of the Mansion Parking Lot. It was assumed that the ground floor of Newhouse will be used as swing space during construction of the Pritchard building, which would further reduce the temporary space needed. In addition, if the O'Brien remodel is timed during the interim, teleworking or other space accommodations could be considered instead of modular space. Further analysis in the design phase may be able to reduce the amount of area required. Coordination with DES on possible use of other spaces on campus that may be available can also reduce the size further.

The budget assumes that the portables will be purchased. During the design phase, coordination with the modular building manufacturer could determine that the buildings can to be leased instead of purchased and the cost benefit analysis can determine the ultimate procurement terms. There is also the possibility that the portables can be sold at the end of their use, but due to uncertainty of the outcome this has not been factored into the budget.

The budget assumes that some of the furniture in the temp facility will be use of existing furniture and part of it will be rental. The budget also includes costs for storage of furniture and moving costs.

Major Components and Equipment

PHOTOVOLTAICS (PV)

The project has a goal to achieve net zero ready. In order to achieve this, on-site power generation is needed with photovoltaic (PV) panels. The PV system is a standard ballasted system. Is sized to the maximum capacity of the campus medium voltage loop.

STRUCTURE AND MATERIALS

The proviso referenced that the replacement building for Newhouse was to be an American Neoclassical style, similar to that of the Cherberg and O'Brien buildings. However, upon further research and review with members, the team agrees that an approach that is in congruity with the historic buildings on campus, but built using contemporary materials and practices would be more appropriate.

Adhering to a neoclassical style presents budgetary impacts including increased material costs for specialties like stone veneer and steel windows, increased foundation and structural steel costs to support the weight of the facade, and increased labor costs. This totals to an increased construction cost of approximately $9.6 million over that of recent contemporary buildings on campus.

Additional challenges include the durability of the materials (such as limestone) and thermal envelope and water intrusion concerns. Extensive detailing to protect the building and ensure it is properly sealed would be required.

Furthermore, adhering to a neoclassical style contradicts local Master Plan and Secretary of the Interior standards. A 2006 Capitol Campus Master Plan design guideline states:

> *New West Campus buildings must blend with the established architectural style of West Campus. This recommendation is not intended as a requirement that new buildings be of an eclectic or classical style. They can, and should, be representative of the architectural thinking of their time, just as the original Capitol Campus complex represents the architectural philosophy of a specific time in history. A well-designed contemporary building can embody the spirit of its historic setting without being a copy.*

Additionally, the Secretary of the Interior's Standards for Historic Rehabilitation were discussed. Standard 3 states:

> *"Each property shall be recognized as a physical record of its time, place, and use. Changes that*

[FIGURE 48] LEFT: ROBERT C. BYRD FEDERAL BUILDING (RAMSA); RIGHT: OFFICE BUILDING (CHIPPERFIELD)

create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken."

Standard 9 further recommends:

"New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment."

Considering these guidelines in the context of Washington's Capitol Campus, the project budget includes money to be applied towards enhanced depths and detailing of the facades of the replacement Newhouse and Pritchard buildings to appropriately fit into the vocabulary of the historic buildings without replicating them exactly. Themes such as base-shaft-capital expression across the building and depth and relief in the facade that are common in American Neoclassical designs can be included without relying on specific classical elements such as pediments, columns or capitals. Examples of this intent can be seen in the civic buildings pictured in Figure 48: the Robert C. Byrd Federal Building and Courthouse by Ramsa and the office building in Munich by David Chipperfield Architects.

SECURITY

The Washington State Capitol Campus follows the US Department of Homeland Security Inter-agency Security Committee (DHS ISC) Risk Management Process Standard that defines the criteria and processes that those responsible for facility security should use in determining the security level. This standard provides an integrated, single source of physical security countermeasures and guidance on countermeasure customization for all Capitol Campus facilities. Through coordination with the Department of Enterprise Services Capitol Security & Visitor Services (DES CSVS) Division, it has been determined the facility security level (FSL) rating for this proposed facility is a level III. New construction projects on the Capitol Campus, with few exceptions, are fully expected to meet the necessary level of protection (LOP). Any request for deviation to the FSL shall be approved by DES CSVS. Non-compliance to the appropriate LOP has the potential to leave the facility exposed to risks in protecting employees, visitors, and the facility itself. High-level components of countermeasures include:

— Site Security/Crime Prevention Through Environmental Design (CPTED)–CPTED is a multi-disciplinary approach for reducing crime through urban and environment design. CPTED aims to reduce victimization, deter criminal acts and build a sense of community by gaining territorial control of areas and reduce opportunities for crime and fear of crime. Components of CPTED cover lighting, landscaping, and signage.

— Security technologies–use of security technologies build upon the structure makeup of the facility and use of CPTED for security of the facility and adjacent grounds. Components of security technologies include: Electronic access control incorporating electric strikes, card readers, and door position switches; High definition internet protocol (IP) video surveillance cameras; Duress alarm buttons; Intrusion detection systems; and Structure Security

— Vehicle barriers and vehicle access control–additional enhancements to a facility that has adjacencies to roads and parking lots in which vehicle barriers are deployed to prevent a vehicle borne attack and vehicle access control measures that only allow authorized parkers.

— Facility critical infrastructure protection–includes the security of air intakes, filtration levels, security of power and auxiliary power locations, and water supply.

— Selective blast resistance for façade, windows: Use of laminated or monolithic glass to resist fragments. No operable windows of the lower level of the building.

— Progressive collapse prevention: Maximize the setbacks between the building envelope and areas of public vehicular access. Maintain a minimum of 20-ft setback from building facade to restricted parking areas and a minimum of 50-ft setback from areas where visitors and public can legally park or idle.

— DES Capitol Security and Visitor Service recommends access points for building entry be limited the one primary visitor entrance at main lobby. Access control measures such as hard walls, turnstiles, glass partitions are recommended to secure entry into main building areas.

Technology

The project will include a building management system, security cameras, an access control system, and other telecommunications systems consistent with the DES Facilities Design Guidelines and Construction Standards. Operable windows will be provided on floors other than the ground floor and will include security sensors tied to the Building Management System. Doors in the building, including office doors, will include proximity card access in addition to key access. Reference the technical narratives in the Appendix for additional details.

Commissioning

As a high-performance, LEED rated building, commissioning should take a book-ended approach to ensure systems function as intended. Requirements are as follows:

— Begin in the validation phase with establishing the Owner's Project Requirements (OPR)

— Commissioning agent shall review design progress milestones 'basis of design' documentation, against the OPR at minimum per LEED requirements.

— Provide specifications to the design team

— Engage the controls designer/vendor early to help establish appropriate costs for the work and to work alongside the owner, engineer, and commissioning authority to minimize unanticipated operational issues and change orders.

— Provide enhanced commissioning after substantial completion through a full cycle of seasons.

— During the occupancy phase, the owner, and the O&M contractor shall meet at least once a month with the contractor and consultant team.

— Tenant orientation is recommended in order to educate users on system operations and on how their behavior can affect energy use and thermal comfort.

— Tuning the building, particularly post-occupancy, is critical as sometimes the biggest variable in system performance is the way in which it is used.

— The commissioning authority is to review contractor submittals, verify inclusions of systems manual requirements in construction documents, verify system manual updates and delivery, verify operator and occupant training delivery and effectiveness, verify seasonal testing and develop an on-going commissioning plan.

DES Design Guidelines and Construction Standards require that buildings that comply with high performance building standards be monitored for performance. The preferred method is to establish capabilities through an Energy Management Control System. Monitoring systems must be programmed to collect consumption of energy and water, and must be commissioned. It is recommended that commissioning authority check the monitoring system after ten months during the enhanced commissioning effort.

Project Delivery

General Contractor /Construction Manager (GC/CM) project delivery method is recommended for Newhouse, Pritchard and O'Brien to meet the projects priorities. Due to the simplicity and budget of the temporary facilities, they can be procured by Design Bid Build (DBB) delivery method. This is also a possibility for the O'Brien remodel; as a minor project, a traditional DBB approach could save cost.

GC/CM is a project delivery method in which the agency contracts separately with a designer and a construction manager. The significant characteristic of this delivery method is a contract between an agency and a construction manager who will be at risk for the final cost and time of construction. Construction industry/contractor input into the design and constructability of complex and innovative projects are the major reasons an agency would select the GC/CM method. Unlike DBB, GC/CM brings the builder into the design process at a stage where definitive input can have a positive impact on the project.

The LCM's complexity is in part due the construction of multiple projects phased over many years in the center of an occupied campus with concerns about security, access, parking and noise disruptions. GC/CM will allow for contractor input on phasing, staging and development of the project general conditions to ensure concerns are addressed in the bid documents.

FLEXIBILITY OF DECISION MAKING

GC/CM was also selected due to the diverse group of stakeholders involved in the project as to allows for the owner to have more control over the outcome of the project. DES has experience in both GC/CM and in DB and thinks that GC/CM would be the best fit considering all the stakeholders and decisions that are needed for a project on the capitol campus. GC/CM will give the owner full control over the both the design and construction and will have a collaborative Owner-Architect-Contractor (OAC) project team while allowing for flexibility in decision making. In order to get the most qualified A/E team and contractor the owner wants to have control over choosing both the design team and the contractor individually. With design build (DB) procurement method the owner chooses a team and does not have control over the A/E selection. DB sets the project guaranteed maximum price (GMP) early in the design phase requiring the owner to make compromises if initial assumptions are changed after the GMP is set. With GCCM the owner has more flexibility in when decisions are made.

ENERGY PERFORMANCE MANDATE

The GC/CM delivery process does not allow for an energy performance guarantee to be provided by the contractor; however, the owner can perform a post-occupancy energy audit to verify the actual building performance meets the energy design target. This would satisfy the intent of the energy performance mandate.

DELIVERY SCHEDULE

Multiple buildings and sites on campus will be impacted by this project. In order to minimize the disruption on campus projects will need to be phased to minimize impacts on parking supply, traffic flow, and noise and dust caused by the construction process. Unlike DB, GC/CM allows for contractor input on phasing and construction logistics and constructability which may reduce the overall schedule. GC/CM delivery will allow for start of construction before the entire design is complete. This will help optimize the schedule by starting scope related to demolition, temporary facilities construction and procurement of long lead items prior to completion of the design. The GC/CM can help identify and resolve design and construction issues related to building on an active campus on multiple sites.

CONSTRUCTION INPUT

GC/CM allows the Owner to have control over the design as they do in DBB, with the added benefit of continuous constructibility input from the construction manager. Although GC/CM does not eliminate the risk of design errors/omissions and claims in construction, the earlier the construction manager is brought into the design process the more knowledge they will have giving the team the ability to mitigate those risks together. The site for developing the Pritchard project on the edge of a steep bluff which includes unstable soils and demolition of a historic building adds additional site development challenges. Additional complexity is added due to the requirement for Net Zero Energy (NZE) requirements.

Agency Management

Project delivery will be managed by a Washington State Department of Enterprise Services project manager with representation from the interested parties. The Project Management Team (PMT) and Project Executive Team (PET) will continue meetings and involvement throughout design and construction.

Schedule

ANTICIPATED MILESTONE SCHEDULE

Figure 49 outlines an anticipated milestone schedule. The estimated construction completion dates are as follows:

— Newhouse Replacement - June 2025

— Pritchard Replacement -August 2027

— O'Brien Remodel - June 2028

SCHEDULE RISKS

Coordination with Legislative Session

The construction schedule must be aligned such that it does not disrupt the scheduled legislative sessions. The proposed schedule shown in Figure 49 coordinates moving dates with the sessions.

Permit Review

The project anticipates a city permit review time of 60-90 days through the City of Olympia. Because the project is located on the capitol campus, zoning approval through a formal site plan review is not required prior to the building department review. The City would like to see a traffic impact analysis (TIA) that would evaluate traffic and parking impacts of the proposed facility. TIA will be reviewed as part of the State Environmental Policy Act (SEPA).

Historic Building Demolition

The Pritchard building is listed on the National Register of Historic Places and mitigation measures will need to be determined through discussion and negotiation with the Department of Archaeology and Historic Preservation (DAHP). Preliminary discussions have been initiated on possible mitigation measures and a letter from DAHP with suggestions for mitigation proposed by DAHP are included in the Appendix. A memorandum of understanding will need to be negotiated during the design phase when a mitigation plan has been developed. The project budget includes costs for historic mitigation measures. Outreach will be required to ensure buy-in from the historic preservation community.

[FIGURE 49] MILESTONE SCHEDULE

ITEM/PHASE	ANTICIPATED START	ANTICIPATED COMPLETION
Predesign Study	**May 2020**	**November 2020**
Newhouse Replacement		
RFQ/RFP	January 2021	April 2021
DESIGN & CONSTRUCTION DOCUMENTS		
Validation	May 2021	July 2021
Design	August 2021	January 2023
Temporary Facilities	December 2021	March 2022
TI Press Houses in Leg Building	April 2022	July 2022
CONSTRUCTION		
Temporary Facilities	May 2023	June 2023
TI Press Houses in Leg Building	February 2023	May 2023
Move-in Temp Facilities	July 2023	August 2023
Demolition & Construction	August 2023	June 2025
Move-in & Occupancy	July 2025	August 2025
Pritchard Replacement		
RFQ/RFP	November 2022	January 2023
DESIGN & CONSTRUCTION DOCUMENTS		
Validation	February 2023	April 2023
Design	May 2023	October 2024
CONSTRUCTION		
Move-out of Pritchard	September 2025	October 2025
Demolition and Construction	November 2025	August 2027
Move-in & Occupancy	September 2027	October 2027
O'Brien Renovation		
RFQ/RFP	August 2026	September 2026
DESIGN & CONSTRUCTION DOCUMENTS		
Validation	October 2026	November 2026
Design	December 2026	August 2027
CONSTRUCTION		
Move-out	November 2027	December 2027
Demolition and Construction	January 2027	June 2028
Move-in & Occupancy	July 2028	July 2028
Temporary Facilities Removal	August 2028	August 2028

Budget Analysis

Prediction of Overall Project Costs

The overall project cost will be made up of construction cost, soft costs, and temporary facility/operations cost.

MAJOR ASSUMPTIONS

A detailed cost estimate was performed four buildings; A four-story Newhouse Building at 64,765 gross square feet (GSF) facility with office space to house the Senate, Production and Design and Legislative Support Services and the Page School on Opportunity Site 6. A three-story Pritchard building at 72,342 GSF facility with office space to support Code Revisor, LEG-TECH, and House of Representative and includes public spaces such as a café and hearing room. The remodel of the O'Brien Building assumed 17,630 GSF of tenant improvements. Modular portable buildings allowed for 18,000 GSF of office space to temporarily house the occupants of the buildings being demolished during construction. A functional program was developed and "test-to-fit" floor plans were prepared to confirm space use assumptions. A site plan, floor plans, consultant narratives and an outline specification were used as a basis for the cost estimate and are included in the appendix. A summary of cost assumptions is listed within this chapter.

Project Delivery Method

General Contractor /Construction Manager (GC/CM) project delivery method is recommended for Newhouse, Pritchard and O'Brien to meet the projects priorities. Due to the simplicity and budget of the temporary facilities, it can be procured by Design Bid Build delivery method.

If O'Brien is to use Design Bid Build Delivery method there is the potential to save an additional 10% in construction costs.

Net-Zero Energy (NZE)

A net-zero-ready facility has been estimated in the overall project cost to meet the requirements of ESSB 6248 Section 1027 Chapter 356, Laws of 2020. The cost includes photovoltaic (PV) panels on the roof of the buildings and infrastructure to connect to additional panels in the future. In order to meet the Governor's mandate of net zero additional solar panels are required. Because of the large amount of parking around the site, adding panels over the stalls has the potential to increase output of the solar significantly. This solar could be used in combination with the roof mounted panels to make both new buildings net zero energy in the future. This would be a clear demonstration of the State's commitment to achieving NZE.

Energy Use Intensity (EUI) of 35 or Less

The buildings have been designed to meet or exceed the EUI target of 35 or less per ESSB 6248 Section 1027 Chapter 356, Laws of 2020. The rooftop Photovoltaic installation is used to offset the energy use of the building and will be sized to maximize the size while staying below the current capacity of the campus loop.

Temporary Facilities

The west side of the Mansion Parking lot has been selected for the location of the temporary facilities to house the occupants of the buildings under construction. Cost for two story portable 18,000 GSF structures are assumed in the budget. The cost of installation and connection/disconnection to utilities and removal and restoration of the site are included in the construction budget. It is assumed that portable buildings will be purchased to accommodate the occupants of the Newhouse, Pritchard and O'Brien buildings when they are under construction. Costs for storage of 9,000 sf of the current furniture and lease of 9,000 sf of the furniture to equip the portables and moving costs are assumed under the "other costs" tab of the C-100.

The ground floor of the Newhouse Building is assumed to be used for temporary facilities during the construction of the Pritchard building in order to minimize the size of the portables needed. Production and Design and for LSS Admin. would move into the Newhouse building after the completion of the Pritchard building replacement.

Press Houses

The press occupies two structures on Opportunity Site 6 which will be demolished as part of the Newhouse building construction. A tenant improvement project in rooms 102 and 103 of the Legislature Building is included in the Newhouse building construction costs to accommodate the press. A test fit plan provided by DES is included in the appendix.

Roundabout and Columbia Street Vacation

The City of Olympia has a long-term vision to install a roundabout at the intersection of Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection; Based on preliminary analysis it was determined that the project would not adversely affect traffic operations at intersections and that they would continue to operate at an acceptable level of service for this arterial. No money is being carried in the budget for the roundabout and if the City insists on it during the permitting process additional funds will need to be added to the budget to cover the anticipated cost of 6-8M.

American Neoclassical Facade

The Proviso calls for American Neoclassical Façade for the Newhouse building. It was determined after study that the added cost to design a replica building would be over 9.5M and it would not be consistent with the 2006 State Capitol Campus Master Plan or the Secretary of the Interior’s Standards for Historic Rehabilitation and would pose challenges to detailing with contemporary construction methods and thermal requirements.

It was agreed that both the Newhouse and Pritchard buildings would add extra money to the envelope budget to allow for a higher level of detailing and depth to the exterior façade as is appropriate for a building of their stature in the heart of the historic capitol. A separate line item in the cost estimate includes a premium for the enhanced façade for both he Newhouse and the Pritchard buildings.

As described in the Detailed Description of the Preferred Alternative chapter, the facade for both the Newhouse and the Pritchard buildings, while not an exact copy of Cherberg's stone exterior, will include a similar neoclassical base-middle-top expression across each building. There will be depth and relief in the facade that are common in American neoclassical designs, which can be incorporated using modern construction methods and materials. The building character will not rely on specific classical elements such as columns, pediments, and capitals and will use precast concrete in place of sandstone.

Project Budget

The cost estimate has been established in current 2020 dollars with consideration toward market trends. The cost reflected in the construction cost summary include an estimating contingency.

[FIGURE 50] PROJECT COST SUMMARY TABLE - TEMPORARY FACILITIES*

CATEGORY	COST
Acquisition	$0
Consultant Services	$495,545
Construction Contracts	$4,306,798
Equipment	$0
Artwork	$0
Project Management	$17,500
Other Costs	$554,228
Total	$5,374,071
Total Escalated (Rounded to $1,000)	**$5,709,000**

*Temporary facilities includes global LCM costs

[FIGURE 51] PROJECT COST SUMMARY TABLE - PHASE I - NEWHOUSE & LCM GLOBAL COSTS

CATEGORY	COST
Acquisition	$534,330
Consultant Services	$7,153,301
Construction Contracts	$57,901,880
Equipment	$1,642,514
Artwork	$370,946
Project Management	$222,000
Other Costs	$1,525,590
Total	$69,350,562
Total Escalated (Rounded to $1,000)	**$74,560,000**

[FIGURE 52] PROJECT COST SUMMARY TABLE - PRITCHARD REPLACEMENT

CATEGORY	COST
Acquisition	$0
Consultant Services	$7,776,781
Construction Contracts	$69,751,889
Equipment	$1,535,478
Artwork	$461,388
Project Management	$243,000
Other Costs	$1,480,869
Total	$81,249,405
Total Escalated (Rounded to $1,000)	**$92,739,000**

[FIGURE 53] PROJECT COST SUMMARY TABLE - O'BRIEN RENOVATION

CATEGORY	COST
Acquisition	$0
Consultant Services	$1,333,246
Construction Contracts	$3,576,350
Equipment	$570,070
Artwork	$34,305
Project Management	$17,500
Other Costs	$279,372
Total	$5,810,844
Total Escalated (Rounded to $1,000)	**$6,895,000**

[FIGURE 54] CONSTRUCTION COST SUMMARY TABLE - TEMPORARY FACILITY

		COST	SUBTOTAL
Sitework			**$360,000**
G10	Site Preparation	$0	
G20	Site Improvements	$60,000	
G30	Site Mechanical Utilities	$75,000	
G40	Site Electrical Utilities	$200,000	
G50	Site Electrical Utilities	$25,000	
Facility Construction			**$3,389,280**
A10	Foundations	$0	
A20	Basement Construction	$0	
B10	Superstructure	$0	
B20	Exterior Closure	$0	
B30	Roofing	$0	
C10	Interior Construction	$0	
C20	Stairs	$0	
C30	Interior Finishes	$0	
D10	Conveying	$0	
D20	Plumbing Systems	$0	
D30	HVAC Systems	$0	
D40	Fire Protection Systems	$0	
D50	Electrical Systems	$0	
F10	Special Construction	$2,600,000	
F20	Selective Demolition	$0	
	General Conditions	$100,000	
	Estimating Contingency	$444,000	
	Contractor Fee	$245,280	
MAXIMUM ALLOWABLE CONSTRUCTION COST (MACC)			**$3,749,280**
Construction Contingency			$187,464
	Allowance for Change Orders (5%)	$187,464	
SALES TAX			**$370,054**
CONSTRUCTION CONTRACTS TOTAL			**$4,306,798**

[FIGURE 55] CONSTRUCTION COST SUMMARY TABLE - PHASE I - NEWHOUSE & LCM GLOBAL COSTS

		COST	SUBTOTAL
Sitework			**$7,476,440**
G10	Site Preparation	$1,719,808	
G20	Site Improvements	$913,177	
G30	Site Mechanical Utilities	$304,700	
G40	Site Electrical Utilities	$702,000	
	Estimating Contingency	$545,953	
	Columbia Street Sitework	$394,427	
	Sitework East of Columbia Street	$2,896,376	
Facility Construction			**$34,050,264**
A10	Foundations	$2,258,515	
A20	Basement Construction	$0	
B10	Superstructure	$4,126,586	
B20	Exterior Closure	$5,797,574	
B30	Roofing	$430,927	
C10	Interior Construction	$3,008,585	
C20	Stairs	$400,000	
C30	Interior Finishes	$1,981,400	
D10	Conveying	$460,000	
D20	Plumbing Systems	$1,014,464	
D30	HVAC Systems	$4,264,737	
D40	Fire Protection Systems	$356,208	
D50	Electrical Systems	$4,394,361	
F10	Special Construction	$100,000	
F20	Selective Demolition	$0	
	CFCI Equipment	$174,925	
	CFCI Casework & Fixed Furnishings	$438,001	
	Press House TI in Legislature Building	$ 223,040	
	Photovoltaic Array	$ 240,000	
	Estimating Contingency	$4,380,942	
MAXIMUM ALLOWABLE CONSTRUCTION COST (MACC)			**$41,526,704**
GCCM Risk Contingency			**$1,673,526**
	GCCM Risk Contingency	$1,245,801	
	Sub Bonds	$427,725	
GCCM Costs			**$7,650,199**
	GCCM Fee	$2,864,175	
	Bid General Conditions	$4,536,024	
	GCCM Preconstruction Services	$250,000	
CONSTRUCTION CONTINGENCY			**$2,076,335**
	Allowance for Change Orders (5%)	$2,076,335	
SALES TAX			**$4,975,116**
CONSTRUCTION CONTRACTS TOTAL			**$57,907,880**

[FIGURE 56] CONSTRUCTION COST SUMMARY TABLE - PRITCHARD REPLACEMENT

		COST	SUBTOTAL
Sitework			**$5,360,061**
G10	Site Preparation	$2,274,000	
G20	Site Improvements	$1,073,823	
G30	Site Mechanical Utilities	$536,100	
G40	Site Electrical Utilities	$777,000	
	Estimating Contingency	$699,138	
Facility Construction			**$44,800,790**
A10	Foundations	$3,215,478	
A20	Basement Construction	$0	
B10	Superstructure	$5,515,984	
B20	Exterior Closure	$7,016,002	
B30	Roofing	$698,460	
C10	Interior Construction	$3,333,017	
C20	Stairs	$275,000	
C30	Interior Finishes	$2,564,640	
D10	Conveying	$345,000	
D20	Plumbing Systems	$903,765	
D30	HVAC Systems	$4,554,306	
D40	Fire Protection Systems	$397,881	
D50	Electrical Systems	$4,828,721	
F10	Special Construction	$100,000	
	CFCI Equipment	$912,502	
	CFCI Casework & Fixed Furnishings	$641,742	
	Photovoltaic Array	$240,000	
	Estimating Contingency	$5,295,375	
	Escalation Contingency	$3,962,918	
MAXIMUM ALLOWABLE CONSTRUCTION COST (MACC)			**$50,160,851**
GCCM Risk Contingency			**$1,861,777**
	GCCM Risk Contingency	$1,385,938	
	Sub Bonds	$475,839	
GCCM Costs			**$8,227,912**
	GCCM Fee	$3,171,941	
	Bid General Conditions	$4,805,971	
	GCCM Preconstruction Services	$250,000	
CONSTRUCTION CONTINGENCY			**$3,508,043**
	Allowance for Change Orders (5%)	$2,508,043	
	Additional Site Geotechnical Unknowns	$1,000,000	
SALES TAX			**$5,993,307**
CONSTRUCTION CONTRACTS TOTAL			**$69,751,889**

[FIGURE 57] CONSTRUCTION COST SUMMARY TABLE - O'BRIEN RENOVATION

		COST	SUBTOTAL
Facility Construction			**$2,401,339**
A10	Foundations	$0	
A20	Basement Construction	$0	
B10	Superstructure	$8,815	
B20	Exterior Closure	$0	
B30	Roofing	$0	
C10	Interior Construction	$164,556	
C20	Stairs	$0	
C30	Interior Finishes	$352,600	
D10	Conveying	$0	
D20	Plumbing Systems	$0	
D30	HVAC Systems	$95,138	
D40	Fire Protection Systems	$35,260	
D50	Electrical Systems	$650,306	
F10	Special Construction	$0	
F20	Selective Demolition	$124,856	
	CFCI Casework & Fixed Furnishings	$108,150	
	Replacement of HVAC Equipment - Allowance	$75,000	
	Access Control and CCTV Systems - Allowance	$308,525	
	Estimating Contingency	$230,952	
	Escalation Contingency	$247,181	
MAXIMUM ALLOWABLE CONSTRUCTION COST (MACC)			**$2,401,339**
GCCM Risk Contingency			**$86,813**
	GCCM Risk Contingency	$64,625	
	Sub Bonds	$22,188	
GCCM Costs			**$540,773**
	GCCM Fee	$154,627	
	Bid General Conditions	$336,146	
	GCCM Preconstruction Services	$50,000	
CONSTRUCTION CONTINGENCY			**$240,134**
	Allowance for Change Orders (5%)	$240,134	
SALES TAX			**$307,292**
CONSTRUCTION CONTRACTS TOTAL			**$3,576,350**

Construction Cost Escalation and Market Conditions

The project cost estimate is established by the C-100 tool prescribing a rate of 2.38 percent per annum. The Office of Financial Management actuarial-based 2.38 percent is assumed for both the Temporary Facility Construction and the Newhouse building project costs as they will be starting construction in the near future. Impacts of COVID are anticipated to keep the escalation rates low in the near term.

Since the Pritchard and O'Brien projects are not planned to start construction until November 2025 and January 2028 respectively an added escalation line item is carried in the budget to account for anticipated escalation as the market heats up following the COVID recovery. Cost estimating and contracting professionals recommend an escalation averaging 4 percent and this has been used to cover future cost increases as the economy and construction recovers from the pandemic. Escalation also helps cover unknowns resulting from the project timeline such as code cycle changes.

Estimating Contingency

The construction budget is carrying an estimating contingency of 15% as is typical at the predesign phase of projects of this size and complexity. This allows for items, conditions, or events for which the design outcome is uncertain and that experience shows will likely result, in aggregate, in additional costs. Typically estimated using statistical analysis or judgment based on past asset or project experience. This contingency will be drawn down as the design develop and more details are known for which the actual cost of items rise, and that amount is reduced in the estimating contingency.

Proposed Funding

ESSB 6248, Section 1027, Chapter 396, Laws of 2020, appropriated $10M for the 2019-21 biennium and identified $89M for future biennia. The total project costs for all three projects surpasses the estimated total cost of $99.45M. Additional monies will need to be provided to complete all three projects.

Facility Operations and Maintenance Requirements

The facility operations and maintenance expenses were estimated per OFM's default rates as published in the Life Cycle Cost Model (LCCM) worksheet. The LCCM is included in the appendix.

[FIGURE 58] COST BY PROJECT

	TOTAL ESCALATED COST*	PROJECTED BIENNIUM FUNDED**	ANTICIPATED DESIGN COMPLETION	DESIGN BIENNIUM	CONSTRUCTION BIENNIUM
Global LCM***	$11,482,000	2021-23	3/31/2022	2021-23	2021-25
Newhouse Replacement****	$68,787,000	2021-23	1/31/2023	2021-23	2023-25
Pritchard Replacement****	$92,739,000	2023-25	10/31/2024	2021-23	2025-27
O'Brien Renovation	$6,895,000	2025-27	8/31/2027	2027-29	2027-29

* "Total Escalated Cost" represents the total costs from design through construction. This actual expenditures will span multiple biennia for Newhouse and Pritchard.

** The "Biennium Funded" represents the initial biennium funding is needed. In the recommended project delivery method of GC/CM, the maximum allowable construction cost is negotiated after construction documents and design specifications are at least 90 percent complete.

*** "Global LCM" represents costs that benefit both the Newhouse and the Pritchard building replacements to include, but not limited to, modular buildings, Columbia street vacation etc. Therefore, some of the costs in the Newhouse C-100 were moved to the Global LCM line item.

****Funding was appropriated in Chapter 356, Laws of 2020 for theLCM project towards design and construction ($3.7M for Newhouse and $6.53M for Pritchard).

[FIGURE 59] OPERATIONS & MAINTENANCE COSTS - NEWHOUSE REPLACEMENT

	KNOWN COST/ GSF / 2025	ESTIMATED COST/ GSF / 2025	TOTAL COST / YEAR	COST / MONTH
Energy (Electricity, Natural Gas)	$1.16	$1.33	$75,127	$6,261
Janitorial Services	$1.33	$1.52	$86,137	$7,178
Utilities (Water, Sewer, Garbage)	$0.50	$0.72	$32,383	$2,699
Grounds	$0.14	$0.06	$9,067	$756
Pest Control	$0.11	$0.10	$7,124	$594
Security	$0.09	$0.10	$5,829	$486
Maintenance and Repair	$5.63	$6.70	$364,327	$30,386
Management	$0.48	$0.51	$31,087	$2,591
Road Clearance	-	$0.13	$8,281	$690
Total Operating Costs	**$9.44**	**$11.18**	**$619,663**	**$51,639**

[FIGURE 60] OPERATIONS & MAINTENANCE COSTS - PRITCHARD REPLACEMENT

	KNOWN COST/ GSF / 2027	ESTIMATED COST/ GSF / 2027	TOTAL COST / YEAR	COST / MONTH
Energy (Electricity, Natural Gas)	$1.23	$1.41	$89,027	$7,419
Janitorial Services	$1.41	$1.62	$102,074	$8,506
Utilities (Water, Sewer, Garbage)	$0.53	$0.76	$38,374	$3,198
Grounds	$0.15	$0.07	$10,745	$895
Pest Control	$0.12	$0.11	$8,442	$704
Security	$0.10	$0.11	$6,907	$576
Maintenance and Repair	$5.97	$7.12	$432,089	$36,007
Management	$0.51	$0.54	$36,839	$3,070
Road Clearance	-	$0.14	$9,836	$820
Total Operating Costs	**$10.01**	**$11.88**	**$734,334**	**$61,194**

[FIGURE 61] OPERATIONS & MAINTENANCE COSTS - O'BRIEN RENOVATION

	KNOWN COST/ GSF / 2028	ESTIMATED COST/ GSF / 2028	TOTAL COST / YEAR	COST / MONTH
Energy (Electricity, Natural Gas)	$1.27	$1.46	$22,309	$1,859
Janitorial Services	$1.45	$1.67	$25,579	$2,132
Utilities (Water, Sewer, Garbage)	$0.55	$0.79	$9,616	$801
Grounds	$0.15	$0.04	$2,692	$224
Pest Control	$0.12	$0.11	$2,116	$176
Security	$0.10	$0.11	$1,731	$144
Maintenance and Repair	$6.15	$7.35	$108,276	$9,023
Management	$0.52	$0.56	$9,231	$769
Road Clearance	-	$0.14	$2,468	$206
Total Operating Costs	**$10.32**	**$12.25**	**$184,018**	**$15,335**

Furniture, Fixtures and Equipment

This cost includes the purchase of new loose furniture, fixtures for most of the program spaces. Code Revisor Office, LSS Photo and LSS Admin will be bringing their existing furniture. New office and workstation furniture are included in the FF&E costs. New A/V equipment is assumed for all conference rooms, informal meeting spaces and large public meeting spaces. This can be revisited as the project continues to develop and more detailed inventory of existing equipment is developed. Refer to the appendix for a conceptual furniture and equipment budget.

[FIGURE 62] FF&E COSTS

DIV.	DESCRIPTION	ESTIMATED COST (UNESCALATED)
Newhouse Replacement		
E10	Equipment	$362,319
E20	Furnishings	$1,139,065
Subtotal		$1,501,384
Total with 9.4% Tax		**$2,873,764**
Pritchard Replacement		
E10	Equipment	$417,956
E20	Furnishings	$985,589
Subtotal		$1,403,545
Total with 9.4% Tax		**$1,535,478**
O'Brien Remodel		
E10	Equipment	$47,495
E20	Furnishings	$473,593
Subtotal		$521,088
Total with 9.4% Tax		**$570,070**

Appendix

SECTION C

APPENDICES

Appendix 1: Predesign checklist and outline

A predesign should include the content detailed here. OFM will approve limited scope predesigns on a case-by-case basis.

- ❖ **Executive summary**
- ❖ **Problem statement, opportunity or program requirement**
  - ☒ Identify the problem, opportunity or program requirement that the project addresses and how it will be accomplished.
  - ☒ Identify and explain the statutory or other requirements that drive the project's operational programs and how these affect the need for space, location or physical accommodations. Include anticipated caseload projections (growth or decline) and assumptions, if applicable.
  - ☒ Explain the connection between the agency's mission, goals and objectives; statutory requirements; and the problem, opportunity or program requirements.
  - ☒ Describe in general terms what is needed to solve the problem.
  - ☒ Include any relevant history of the project, including previous predesigns or budget funding requests that did not go forward to design or construction.
- ❖ **Analysis of alternatives (including the preferred alternative)**
  - ☒ Describe all alternatives that were considered, including the preferred alternative. Include:
    - ☒ A no action alternative.
    - ☒ Advantages and disadvantages of each alternative. Please include a high-level summary table with your analysis that compares the alternatives, including the anticipated cost for each alternative.
    - ☒ Cost estimates for each alternative: See Phase 1
      - ☒ Provide enough information so decision makers have a general understanding of the costs.
      - ☒ Complete OFM's Life Cycle Cost Model (RCW 39.35B.050). See Phase 1
    - ☒ Schedule estimates for each alternative. Estimate the start, midpoint and completion dates. See Phase 1
- ❖ **Detailed analysis of preferred alternative**
  - ☒ Nature of space – how much of the proposed space will be used for what purpose (i.e., office, lab, conference, classroom, etc.)
  - ☒ Occupancy numbers.
  - ☒ Basic configuration of the building, including square footage and the number of floors.
  - ☒ Space needs assessment. Identify the guidelines used.
  - ☒ Site analysis:
    - ☒ Identify site studies that are completed or under way.
    - ☒ Location.

- ☒ Building footprint and its relationship to adjacent facilities and site features. Provide aerial view, sketches of the building site and basic floorplans.
- ☒ Stormwater requirements.
- ☒ Ownership of the site and any acquisition issues.
- ☒ Easements and setback requirements.
- ☒ Potential issues with the surrounding neighborhood, during construction and ongoing.
- ☒ Utility extension or relocation issues.
- ☒ Potential environmental impacts.
- ☒ Parking and access issues, including improvements required by local ordinances, local road impacts and parking demand.
- ☒ Impact on surroundings and existing development with construction lay-down areas and construction phasing.

☒ Consistency with applicable long-term plans (such as the Thurston County and Capitol campus master plans and agency or area master plans) as required by RCW 43.88.110.

☒ Consistency with other laws and regulations:

- ☒ High-performance public buildings (Chapter 39.35D RCW).
- ☒ State efficiency and environmental performance, if applicable (Executive Order 18-01).
- ☒ Greenhouse gas emissions reduction policy (RCW 70.235.070).
- ☒ Archeological and cultural resources (Executive Order 05-05 and Section 106 of the National Historic Preservation Act of 1966).
- ☒ Americans with Disabilities Act (ADA) implementation (Executive Order 96-04).
- ☒ Compliance with planning under Chapter 36.70A RCW, as required by RCW 43.88.0301.
- ☒ Information required by RCW 43.88.0301(1).
- ☒ Other codes or regulations.

☒ Identify problems that require further study. Evaluate identified problems to establish probable costs and risk.

☒ Identify significant or distinguishable components, including major equipment and ADA requirements in excess of existing code.

☒ Identify planned technology infrastructure and other related IT investments that affect the building plans.

☒ Describe planned commissioning to ensure systems function as designed.

☒ Describe any future phases or other facilities that will affect this project.

☒ Identify and justify the proposed project delivery method. For GC/CM, link to the requirements in RCW 39.10.340.

☒ Describe how the project will be managed within the agency.

☒ Schedule.

- ☒ Provide a high-level milestone schedule for the project, including key dates for budget approval, design, bid, acquisition, construction, equipment installation, testing, occupancy and full operation.
- ☒ Incorporate value-engineering analysis and constructability review into the project schedule, as required by RCW 43.88.110(5)(c).

- ☒ Describe factors that may delay the project schedule.
- ☒ Describe the permitting or local government ordinances or neighborhood issues (such as location or parking compatibility) that could affect the schedule.
- ☒ Identify when the local jurisdiction will be contacted and whether community stakeholder meetings are a part of the process.

❖ Project budget analysis for the preferred alternative

- ☒ Cost estimate.
  - ☒ Major assumptions used in preparing the cost estimate.
  - ☒ Summary table of Uniformat Level II cost estimates.
  - ☒ The C-100.
- ☒ Proposed funding.
  - ☒ Identify the fund sources and expected receipt of the funds.
  - ☒ If alternatively financed, such as through a COP, provide the projected debt service and fund source. Include the assumptions used for calculating finance terms and interest rates.
- ☒ Facility operations and maintenance requirements.
  - ☒ Define the anticipated impact of the proposed project on the operating budget for the agency or institution. Include maintenance and operating assumptions (including FTEs).
  - ☒ Show five biennia of capital and operating costs from the time of occupancy, including an estimate of building repair, replacement and maintenance.
- ☒ Clarify whether furniture, fixtures and equipment are included in the project budget. If not included, explain why.

❖ Predesign appendices

- ☒ Completed Life Cycle Cost Model.
- ☒ A letter from DAHP.

Sec. 1027. 2019 c 413 s 1090 (uncodified) is amended to read as follows:

FOR THE DEPARTMENT OF ENTERPRISE SERVICES

((~~Newhouse Replacement~~)) Legislative Campus Modernization (92000020)

(1) The reappropriation in this section is subject to the following conditions and limitations: The final predesign for legislative campus modernization must be submitted to the office of financial management and legislative fiscal committees by September 1, 2020. The department must consult with the senate facilities and operations committee or their designee(s) and the house of representatives executive rules committee or their designee(s) during the development of and prior to finalizing and submitting the final predesign on September 1, 2020.

(a) With respect to the Irv Newhouse building replacement on opportunity site six, the final predesign must include demolition of buildings on opportunity site six, with the exception of the visitor center. The predesign must include details and costs for temporary office space on Capitol Campus, for which modular space is an option, to be used at least during the construction of the building for Irv Newhouse occupants. The predesign must also consider an additional floor for the Irv Newhouse building, and this component of predesign must not delay nor impact the final predesign deliverable date. The predesign must assume the following:

(i) Necessary program space required to support senate offices and support functions;

(ii) A building facade similar to the American neoclassical style of existing legislative buildings on Capitol Campus;

(iii) Member offices of similar size as member offices in the John A. Cherberg building;

(iv) Design and construction of a high performance building that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

(v) Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

(vi) Temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the building. Maximizing efficient use of modular space with Pritchard renovation or replacement must be considered;

(vii) Demolition of the buildings, not including the visitor center, located on opportunity site six. Demolition costs must not exceed six hundred thousand dollars; and

(viii) At least bimonthly consultation with the senate facilities and operations committee or their designee(s).

(b) With respect to the Pritchard building replacement or renovation, and renovation of the third and fourth floors of the John L. O'Brien building, the predesign must assume the following:

(i) The necessary program space required to support house of representatives offices and support functions;

(ii) Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

(iii) Design and construction that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

(iv) The detail and cost of temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the buildings for state employed occupants of any impacted building. Maximizing efficient use of modular space with the Newhouse replacement must be considered; and

(v) At least bimonthly consultation with the leadership of the house of representatives, the chief clerk of the house of representatives, or their designee(s), and tenants of any impacted buildings.

(c) The legislative campus modernization predesign must assume:

(i) Preference for the completion of construction of the Irv Newhouse building before the renovation or replacement of the Pritchard building and before the renovation of the third and fourth floors of the John L. O'Brien building;

(ii) The amount of parking on the capitol campus remains the same or increases as a result of the legislative campus modernization construction projects; and

(iii) Options for relocation of the occupants of impacted buildings that are not employed by the state to alternative locations, including, but not limited to, the visitor center.

(d) The legislative campus modernization predesign must include an analysis of comparative costs and benefits of locations for needed space, to include the following considerations:

(i) An additional floor added to the Irv Newhouse building replacement, and this component of design must not delay nor impact the final predesign deliverable date;

(ii) Additional space added to the Pritchard replacement or renovation;

(iii) The impact to options to maintain, or increase, the amount of parking on Capitol Campus; and

(iv) Space needed for legislative support agencies.

(e) The final predesign must include an analysis of the relative costs and benefits of designing and constructing the projects authorized under this section under a single contract or individual subproject contracts, based on an evaluation of, at least, the following criteria:

(i) The interdependency and interaction of the design and construction phases of the subprojects;

(ii) Subproject phasing and sequencing, including the timing and utilization of modular temporary office space on Capitol Campus during the construction phases;

(iii) Potential cost efficiencies under each subproject;

(iv) Provide an evaluation for the most efficient and effective contracting method for subproject delivery, including design-bid-build, general contractor/construction manager, and design-build for each subproject; and

(v) Other collateral impacts.

(f) The department must have a check-in meeting by October 1, 2020, with the administrative office of the senate, the administrative office of the house of representatives, and the legislative capital budget leads. This check-in meeting must be after the predesign is submitted to the office of financial management and legislative fiscal committees.

(2) The appropriations in this section are subject to the following conditions and limitations: The new appropriations must be coded and tracked as separate discreet subprojects in the agency financial reporting system.

(a) $3,370,000 of the appropriation is provided solely for the Irv Newhouse building replacement, and the appropriation in this subsection (2)(a) is provided solely for design and construction of the Irv Newhouse building replacement for the senate, located on opportunity site six. The design must assume:

(i) Necessary program space required to support senate offices and support functions;

(ii) A building facade similar to the American neoclassical style of existing legislative buildings on Capitol Campus;

(iii) Member offices of similar size as member offices in the John A. Cherberg building;

(iv) Design and construction of a high performance building that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

(v) Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

(vi) Temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the building. Maximizing efficient use of modular space with Pritchard renovation must be considered;

(vii) Demolition of the buildings, not including the visitor center, located on opportunity site six. Demolition costs must not exceed six hundred thousand dollars;

(viii) At least bimonthly consultation with the leadership of the senate, or their designee(s), and Irv Newhouse tenants; and

(ix) Procurement of the design solution will be completed by February 1, 2021, for the Irv Newhouse building replacement.

(b) $6,530,000 of the appropriation is provided solely for the Pritchard building replacement or renovation, and the renovation of the third and fourth floors of the John L. O'Brien building. The appropriation in this subsection is provided solely for the design and construction and assumes:

(i) The necessary program space required to support house of representatives offices and support functions;

(ii) Additional office space necessary to offset house of representatives members and staff office space that may be eliminated in the renovation of the third and fourth floors of the John L. O'Brien building;

(iii) Design and construction of a high performance building that meets net-zero-ready energy standards, with an energy use intensity of no greater than thirty-five;

(iv) Building construction that must be procured using a performance-based contracting method, such as design-build, and must include an energy performance guarantee comparing actual performance data with the energy design target;

(v) Temporary office space on Capitol Campus, for which modular space is an option, to be used during the construction of the building. Maximizing efficient use of modular space with Newhouse replacement must be considered; and

(vi) At least bimonthly consultation with the leadership of the house of representatives, the chief clerk of the house of representatives, or their designee(s), and tenants of any impacted building.

(c) $100,000 of the appropriation is provided solely for the completion of predesign efforts as described in subsection (1) of this section.

Reappropriation:

State Building Construction Account—State. $256,000

Appropriation:

State Building Construction Account—State. $10,000,000

Prior Biennia (Expenditures). $194,000

Future Biennia (Projected Costs). . . . . ((~~$0~~))

$89,000,000

TOTAL. . . . . ((~~$450,000~~))

$99,450,000

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The following is the civil utilities section to be included in the overall report.

EXISTING SITE AND UTILITY CONDITIONS

Existing Site Condition and Topo

This pre-design study focuses on three street blocks along 15th Avenue SW in the southern portion of the West Capitol Campus. The Visitor Center and its associated parking lot occupy the east street block between Capital Way and Columbia Street. Sid Snyder Way borders this block on the north. Between Columbia and Water Street is the second street block, where the Irving R. Newhouse Building and the Press Houses are located. The third street block is occupied by the Pritchard Building and its adjacent parking lot. It is located west of Water Street between 15th Avenue SW and 16th Avenue SW.

The Visitor Center site is a few feet higher than the surrounding streets. It is on a small plateau with gentle slopes at the top. The Newhouse Building street block is divided by a small alley into two parts. The western part, where the Newhouse Building is located, slopes from south to north. The building occupies a major part of the western portion. A small parking lot is located between the Newhouse Building and 15th Avenue. The rest of this part of the site consists of walkways and landscaped areas (mostly lawn). The Press Houses and two gravel parking lots occupy the eastern part of this street block. This part of the street block slopes gently toward the northeast and northwest. Its eastern edge is approximately three feet higher than the adjacent Columbia Street.

On the Pritchard Building site, the existing Pritchard Building occupies the western half of the site, while the parking lot extends to Water Street to the east. The parking lot is paved with asphalt concrete and slopes gently toward the northwest. The parking lot is on the same elevation as 16th Avenue, but it is higher than the adjacent 15th Avenue on the north side by up to five feet. Landscape strips and planters exist along Water Street and 15th Avenue and around the building. West of the building is a steep slope.

A preliminary geotechnical investigation was performed on the steep slope area. No geotechnical investigation was performed on the rest of the project area for this pre-design. From past projects on the adjacent streets and information from other areas at the Capitol Campus, it is reasonable to assume that the soil type in this general area is likely glacial till with some regrading fills.

Water System

The City of Olympia is the water provider for the Capitol Campus. The State owns and operates the water systems in the West Capitol Campus. Two water mains bring water from the city main on Capitol Way to the project area. A 10-inch ductile iron (DI) water main runs along Sid Snyder Way on the north side of the street, while a 12-inch DI main is located on the north side of 15th Avenue. Continuing on 15th Avenue, an 8-inch main brings water to the west end of the street. Three water lines connect the two water mains in Sid Snyder Way and 15th Avenue together. These three lines include a 6-inch cast iron (CI) line in Columbia Street, an 8-inch DI line in Water Street, and a 6-inch CI line between the Cherberg Building and the O'Brien Building. South of 15th Avenue, an 8-inch main runs south along Water Street and connects to a 6-inch, city-owned main at the intersection of Water Street and 16th Avenue. Together these water mains form a grid system in the project area.

The Newhouse Building is currently serviced by the 10-inch water main on the north side of Sid Snyder Way. A 6-inch DI main brings water across the street to the Newhouse Building site. Water services for domestic use and the building fire sprinkler system are branched out from the 6-inch main. The Press Houses water services are provided from the water main on Columbia Street. The Pritchard Building is served by the 8-inch main on 15th Avenue. Water lines for domestic service and the building sprinkler system are connected to this main at the west end of the building.

There are three fire hydrants along Sid Snyder Way from Capitol Way to Water Street and four fire hydrants along 15th Avenue from Capitol Way to the west end of the street. In addition, there is one fire hydrant at the intersection of Water Street and 16th Avenue. Basically, there is one fire hydrant at or near every street intersection of the project area.

Two master water meters and back flow preventers separate the State's water system from the city's water system in this project area. One of the master meters is located on the north side of Sid Snyder Way just west of the Columbia Street intersection. Another is at the northeast corner of Water Street and 15th Avenue. The water system north and west of these master meters is owned and operated by the State.

Only limited water flow data is available. A flow test in 2012 showed that static water pressure at the West Capitol Campus was approximately 60 pounds per square inch (psi), and the available fire flow at 20 psi residual varied from 1,300 gallons per minute (gpm) to 1,900 gpm. The specific flow test data for the fire hydrant near the Insurance Building and across Sid Snyder Way from the Newhouse Building was 60 psi static and 1,970 gpm at 20 psi residual. This hydrant is the closest one to both building sites among all hydrants that were tested. Another flow test was attempted this year, but the test result was questionable. The water main improvements made after 2012, especially the water main project on 15th Avenue completed last year, should greatly increase available fire flow to the project areas.

Sanitary Sewer System

Sanitary sewer service to the project site is provided by the City of Olympia. The sewer main system inside the West Capitol Campus is owned and operated by Washington State.

The existing Pritchard Building is serviced by a 6-inch concrete sewer main that runs along 15th Avenue from west to east. This 6-inch sewer main turns north on Water Street and becomes an 8-inch PVC main. This 8-inch main connects to the 10-inch main at a manhole located at the southwest corner of the Sid Snyder Way and Water Street intersection. The side sewer serving the Newhouse Building also connects to this manhole. From there, the 10-inch clay sewer main conveys sewerage flow north, crosses under the large lawn, and discharges to the city sewer main at the intersection of 11th Avenue and Capitol Way.

There is also an existing 6-inch clay sewer main that runs from west to east along 16th Avenue. The 6-inch line turns north on Water Street. This sewer main turns east on 15th Avenue and becomes an 8-inch clay main. It turns north on Columbia Street and picks up services along the way from the two small buildings (the Press Houses) on the eastern part of the Newhouse street block before connecting to a 12-inch PVC main on Sid Snyder Way. The 12-inch main connects to the city sewer main in Capitol Way.

In addition, a 6-inch sewer stub-out is located at the northern end of the alley dividing the Newhouse street block into two parts. The stub-out is located just beyond the south sidewalk edge of Sid Snyder Way. This 6-inch stub-out connects to a manhole in the center of Sid Snyder Way. An 8-inch PVC sewer main conveys sewer east to Columbia Street and connects to the 12-inch sewer main on Sid Snyder Way as described above.

The sewer main systems described above were constructed at various times, and their service conditions vary as well. The clay sewer mains from 16th Avenue to Water Street then to 15th Avenue and Columbia Street are owned and operated by City of Olympia. The conditions of these sewer mains are unknown. The sewer main system currently serving the Pritchard and Newhouse Buildings is in generally good condition except for the section of 6-inch concrete line in 15th Avenue. This 6-inch line was considered to be at “moderate risk” in the previous assessment because of its age.

Stormwater System

Stormwater systems inside the West Capitol Campus are owned and operated by Washington State. Storm runoff from the studied sites drains either to one of the dedicated stormwater systems that discharge directly to the Capitol Lake or to a combined sewer system that connects to the city sewer main on Capitol Way.

The Newhouse Building and its immediately adjacent areas drain toward the northwest corner of the site. Storm runoff from the building roof and the immediately surrounding grounds is collected by roof drains and surface drains into an underground pipe system. This pipe system connects to a 12-inch stormwater main running under Sid Snyder Way. The 12-inch storm main conveys water north to a manhole just north of the South Diagonal. From the manhole, water flows northwest in a 15-inch pipe to the Winged Victory Monument. From there, water flows west and discharges to Capitol Lake through an underground pipe system. On the east half of the Newhouse Building street block, where the Press Houses are located, storm runoff drains to the adjacent streets in sheet flows. Water entering 15th Avenue and Columbia Street is collected into the sanitary sewer system, which discharges to the city's combined sewer main in Capitol Way.

On the Visitor Center area, storm runoff from the building and parking are collected into underground pipes and discharged into the combined sewer main on Columbia Street just south of the Columbia and Sid Snyder intersection. This sewer main runs north to Sid Snyder Way and then turns east and connects to the sewer main on Capitol Way.

On the Pritchard site, storm runoff from the building roof and the west half of the parking lot is collected into a 12-inch dedicated storm pipe system. This dedicated storm system conveys water northwest and down the bluff and discharges into Capitol Lake. Runoff from the eastern part of the parking lot is collected into an underground pipe system that connects to a sanitary sewer main on 15th Avenue. This sewer main runs from west to east and connects to the 8-inch sewer main in Water Street. This 8-inch main runs north and connects to a 10-inch clay main near Sid Snyder Way. Downstream of the 10-inch clay main is described in the Sanitary Sewer System section.

The western part of the Pritchard parking lot drains to a catch basin located at the northwest corner of the parking lot. A 6-inch concrete pipe conveys the collected water from this catch basin to a manhole outside the southeast corner of Pritchard Building. The storm line becomes a 12-inch line and runs west then northwest along the top of the steep slope before connecting to the outfall pipe to Capitol Lake.

A video investigation was performed on this dedicated stormwater system at the Pritchard site. The stormwater system, including all major pipe sections and the outfall pipe and outfall, appears in good condition except for one section. One section of the storm main south of the Pritchard Building appears broken. Soils fell into the pipe at one location. Tree roots intruded the pipe from several locations. The pipe is heavily blocked.

No detention or water quality facilities exist on the project site.

Natural Gas System

No natural gas main is located near the existing Newhouse Building site. One gas line is located on 16th Avenue. The size of this gas line is unknown. One small gas line is located along Columbia Street and serves the Press Houses. The closest known main is located further east on Capitol Way.

PROPOSED DEVELOPMENTS

Earthwork and Site Improvements

At the Newhouse Building site, surface grading efforts will depend on the final finished floor elevation. Some imported fill will likely be needed at the main entry on the north side for better ADA-compliant accessibility. Some mass grading will be needed on both sides of Columbia Street to fill the street up to the same elevations as the adjacent redevelopment areas. Depending on whether a structural parking facility is built for the benefit of saving the existing significant trees on site, a retaining wall may or may not be required on the Visitor Center area. If the decision is made to have a surface parking lot instead of a structural parking facility, a retaining wall along 15th Avenue, Capitol Way, and a section of Sid Snyder Way would likely be required. Surface grading at the Pritchard site should not be significant. Some grading to create accesses to the parking lot from 15th Avenue will likely be required.

Street frontage improvements, including a new curb and gutter and new sidewalk, on the north side of 15th Avenue from Capitol Way to Water Street will likely be required. A new curb and gutter and a new sidewalk along the west side of Water Street is also expected. The sidewalk along the existing Newhouse Building on Water Street will likely be damaged by new curb cuts, utility connections, and construction activities and need to be replaced. A walkway connecting the O'Brien Building to Water Street on 15th Avenue will likely be required. The section of 15th Avenue from Water Street to its west end will likely need to be repaved after trenching for utility installations, site and building access modifications, and construction damages.

If the street overlay associated with the water main project on 15th Avenue is not completed before the construction of this project, a full street overlay from Capitol Way to Water Street then to 16th Avenue would be required. The City of Olympia stated such in one of the project coordination meetings.

Water System

Water is available for the proposed development. For the new building at the existing Newhouse Building site, water for domestic service and the building's fire sprinkler system can be provided by the existing 6-inch water main that provides water to the existing building. A new water line each for domestic service and the building's fire sprinkler system will be needed. The domestic service line will need to have a water meter. A post indicator valve and a double check valve in an underground vault will be required for the fire sprinkler line. If the double check valve can be installed inside the building, the vault can be eliminated. In addition, a fire department connection will be required. New fire hydrants likely will not be required given that there are four existing fire hydrants nearby.

For the Pritchard site, three new fire hydrants will likely be required; two to replace the existing fire hydrants on 15th Avenue and one on the back of the building near 16th Avenue. The hydrant on the backside of the building will need to be fed by the water main on Water Street through an 8-inch DI pipe. New water lines for domestic and building fire sprinkler systems will be required to service the new building. A water meter is required for the domestic service line. A double-check valve and a post indicator valve in an underground vault will be required for the building's fire sprinkler system. If the double check valve can be installed inside the building, the vault can be eliminated. In addition, a fire department connection will be required. These water services should be provided from the water main on 15th Avenue, so they are in the downstream of the master meters and in the State-owned system.

The Capitol Campus Utility Renewal Plan recommended an additional water main be installed under 15th Avenue from Water Street to the west end. This new main will be part of the future water system improvements to increase fire flow to Cherberg, O'Brien, and the Legislative Building area. Since this section of 15th Avenue will likely need to be repaved after utility trenching and other improvements, we recommend installing this additional water main with this project if it is not yet constructed by the time building construction begins. This would avoid tearing up the newly repaved street in the future and save overall construction costs for the project owner, although the new water main is not a must-have for this project.

The condition of the 6-inch CI water main on Columbia Street is unknown. Given the age of this main, it is likely reaching its design life, if it has not yet. Water mains with the same pipe material and similar age in the rest of the West Capitol Campus have been replaced some time ago. We recommend replacing this 6-inch CI line with an 8-inch DI main from Sid Snyder Way to 15th Avenue now that Columbia Street is vacated and filled up.

We recommend that a flow test be conducted to determine the available fire flow capacity near the two building sites during the design phase. If the flow test shows insufficient fire flow for the proposed buildings, we recommend that the design team works with the fire department and the City of Olympia to formulate a solution best for the project.

Sanitary Sewer System

Sanitary sewer service is available for the two proposed buildings. For the new building at the existing Newhouse Building site, a 6-inch sewer service stub-out is available at the small alley, just beyond the south sidewalk edge of Sid Snyder Way. The stub-out connects to a sewer main on Sid Snyder Way that discharges to the city-owned sewer main on Capitol Way. Another option is to re-use the side sewer line serving the existing Newhouse Building. This 8-inch PVC side sewer is relatively new and in good condition. It connects to the sewer main on Water Street from the northwest corner of the site.

The 6-inch existing sewer main serving the Pritchard Building is old. It was identified in the Capitol Campus Utility Renewal Plan as a "moderate risk" and is recommended to be replaced with the Pritchard Building improvements per previous assessments. The sewer main replacement will be from Water Street to the new building. An 8-inch main with a manhole on each end is likely required. Sewer service to the proposed building will be connected to this new sewer main on 15th Avenue.

The condition of 8-inch combined sewer main on Columbia Street is unknown. Given the age of this clay sewer main, we recommend replacing it with a same-size PVC line. The northern-most section of this sewer main (at the intersection of Columbia and Sid Snyder Way) was replaced with the Sid Snyder Way improvement project a few years ago. The condition of sewer main encountered during the Sid Snyder Way project was bad.

Stormwater System

Storm runoff from the proposed building roof at the existing Newhouse site, new impervious areas, and the western half of the street block will be collected by an underground drainage system and conveyed to the 12-inch dedicated storm system that runs under Sid Snyder Way near the northwest corner of the site. Through this 12-inch dedicated storm main and a series of underground drainpipes, storm runoff from the project site eventually discharges to Capitol Lake. Storm runoff from pollutant-generating impervious areas, such as driveways, will need to be treated before being discharged to the stormwater system. Because the storm runoff is discharged directly to Capitol Lake, flow control (aka detention) is not required.

The area of the Press Houses currently drains to the combined sewer main on Columbia Street. The Visitor Center and the adjacent parking lot also drain to this combined sewer main. The project needs to separate the storm runoff from the sanitary sewer. The plan is to collect storm runoff from these areas into a dedicated stormwater system, convey the collected water under Sid Snyder Way, and discharge to the existing storm main along the South Diagonal. From there, the water will discharge to Capitol Lake through a dedicated stormwater system in the West Capitol Campus. A culvert under Sid Snyder Way has been installed for this purpose. But the connection between this culvert and the existing storm main on South Diagonal needs to be made. Because of the capacity issue of the existing storm drainage system in West Capitol Campus, peak flow controls through an on-site detention facility is required.

At the Pritchard site, the eastern half of the existing parking lot currently drains to a sanitary sewer system. Under the proposed development, no storm runoff from the site will drain to the sanitary sewer system. Storm runoff from the proposed building, parking lot, and the repaved 15th Avenue will be collected into underground pipe systems and conveyed west to the existing storm system that discharges directly to Capitol Lake. Detention is not required because the dedicated stormwater system discharges directly to Capitol Lake, a flow control exempt water body.

A recent video investigation shows that the storm drainage system and the outfall are in good condition except for one section of pipe. The section of pipe, located south to the existing Pritchard Building, is heavily damaged and blocked. Replacement of the pipe is necessary if it is not fixed before the construction of this project.

Water quality treatment facilities are required for treating storm runoff from the pollutant-generating impervious areas (PGIA), such as the paved parking lots and streets. Storm runoff from the building roof requires no water quality treatment if the roof materials are not pollutant generating. The Capitol Lake is a phosphorous-sensitive water body. Phosphorous control is required.

Because of the adjacent steep hillside and poor infiltrative site soil conditions, infiltration facilities are not recommended for this project for the Pritchard Building site. Emerging technologies like media filtration devices with phosphorous removal capacity are more suitable for this site for water quality treatment. There are more treatment options available for the Newhouse and Visitor Center areas. Permeable pavements likely can be used in the Visitor Center area if the existing soil meets the treatment requirements. Bioretention cells with the right soil mixtures for phosphorous control can also be considered.

Because the stormwater detention requirement is exempt, the Low Impact Design (LID) requirement is also exempted according to the City of Olympia design standards. However, DES encourages LID implementation at the Capitol Campus. LID development approaches should be considered and applied to the project as much as practically allowed.

Natural Gas System

There are no known natural gas mains near the two proposed building areas. The closed gas main is on Capitol Way. If natural gas services are required, a gas main would likely need to be extended from Capitol Way.

UTILITIES FOR THE TEMPORARY BUIDLING SITE

All major utility mains run through the proposed temporary building area, the parking lot west of Temple of Justice. Sewer, storm drain, power, and telephone are direct buried. Steam, water and fiber optic are inside a utility tunnel. The stormwater main and sanitary sewer main are several feet deep. Power and telephone lines along with the utility tunnel are likely shallower than the stormwater and sewer mains.

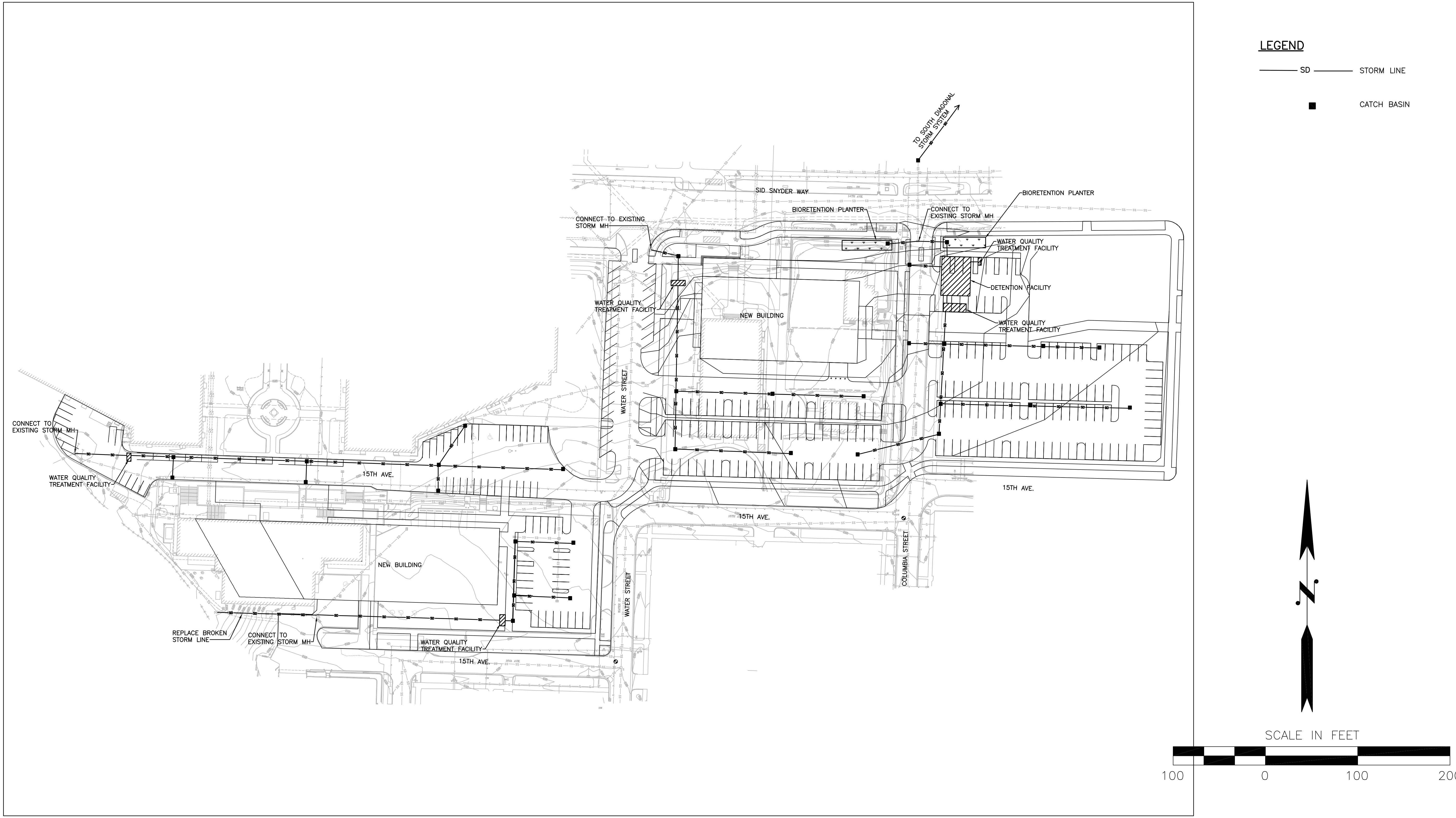
Relocation of these utility mains for a temporary building may not be realistic. A budget for in-place protection of these utility mains is necessary.

Utility services for the temporary building assuming no utility main relocations:

Water: Water is readily available on site. A domestic water service line, a fire sprinkler service line, a fire department connection, a backflow preventor (if not installed inside building), and a PIV valve are required for the building. The water main is inside the utility tunnel.

Sanitary sewer: A sewer main is on site. For the temporary building, one side sewer connecting the building to the sewer main is required.

Storm water: No detention or water quality treatment is required. Storm mains are readily available on site. Collecting and piping roof drains to a storm main are likely required. Catch basins to intercept and re-route parking lot run off blocked by the building are likely necessary.



LAST UPDATED OCTOBER 10, 2020

ReidMiddleton

DRAINAGE & STORMWATER SYSTEM PLAN

FIGURE 1

LEGISLATIVE CAMPUS MODERNIZATION PRE-DESIGN

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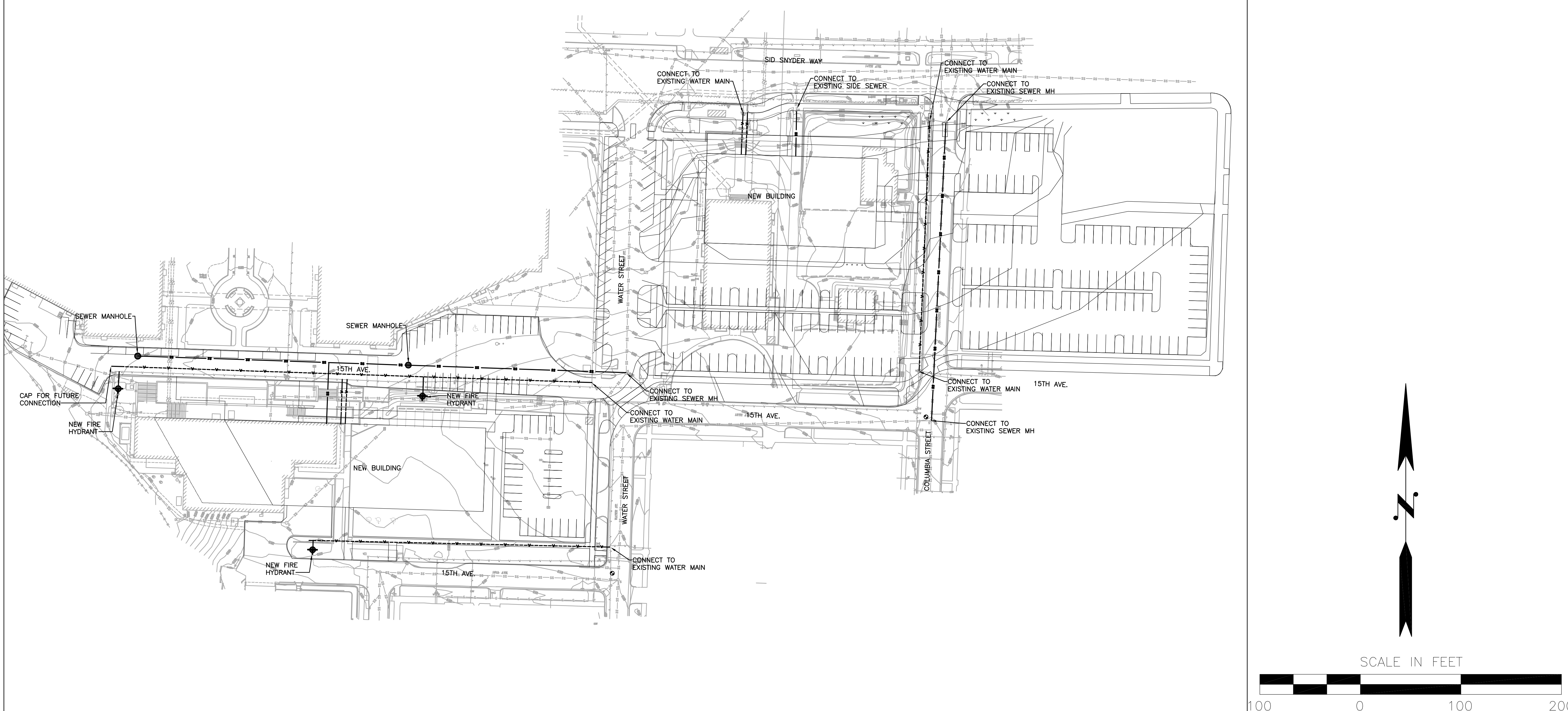

LAST UPDATED OCTOBER 10, 2020

ReidMiddleton

WATER & SANITARY SEWER SYSTEM PLAN

FIGURE 2

LEGISLATIVE CAMPUS MODERNIZATION PRE-DESIGN

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MITHŪN

November 13, 2020

LANDSCAPE NARRATIVE

The Pritchard Building, Newhouse Building, and Visitor's Center sites all make up the South Edge Sub-Campus as defined by the Landscape Preservation Master Plan. The development of these three sites must reinforce the organization of the West Campus, emphasizing the preservation of the architecture of the Capitol Group and the Campus landscape. In addition to the relationship with the Capitol Group and Great Lawn, the development of the sites should directly respond to the features that define the South Capitol Neighborhood Historic District including the yards, gardens, and trees. The landscape treatment of the southern boundary of the development sites is critical to help reduce the visual impact of the development upon the adjacent residences and to provide a soft transition between the South Edge and the South Capitol Neighborhood.

Pritchard Site:

Entry Plaza: The new entry plaza and finished floor elevation of the entry may be the same 15th Ave SW, with a ramp and/or stairs providing to access the parking lot. Alternatively, the finished floor elevation of the building may be similar to that of the existing building, matching the elevation of the parking lot. If the entry plaza is elevated above 15th Ave SW, stairs and ramp will be required to provide access to 15th Ave SW and north to the Capitol Group. The entry plaza paving materials are to be pavers with the option for permeable pavers.

Parking: The intersection of Water St SW and 15th Ave SW will be reconfigured to provide controlled access to the parking lot and the areas between the Pritchard, Cherberg, and O'Brien Buildings. A new crosswalk as well as sidewalks will provide pedestrian and bicycle access from the south onto the Capitol Grounds. New concrete sidewalks are to be added along 16th Ave SW and Water St SW. The existing slope, stairs, and utilities to the north of the parking lot are to remain. Parking stall areas are to be permeable paving and drive aisles are to be paved with asphalt utilized warm mix asphalt and recycled asphalt materials if available. A concrete loading area with access to the building is to be provided with retractable bollards.

Planting: The large Bigleaf Maple along 16th Ave SW is to be retained and protected in place. Street trees and understory plantings will be added between 16th Ave SW and the parking lot to provide a buffer and screening for the South Capitol Neighborhood. Native plantings are to be added along the top of the slope on the southwest side of the site and the adjacent hillside is to be cleared of invasive species and replanted with a native mix of plantings. Planting will be predominantly native vegetation, will have an informal woodland character, and should be deer resistant to the greatest extent feasible. Spreading plants shall be placed away from sidewalks so they do not become a maintenance concern. Although a layered planting approach is intended, consideration should be given to sight lines and providing a visible, safe environment. All planting areas are to receive planting soil to 24" depth. Trees will have underdrains that tie into the storm system. The area under the cantilever will be planted with native plants to blend into the top of slope plantings.

Newhouse & Visitor's Center Site:

Entry Plaza: The entry plaza on the north side of the building will step down +/- 2-4' down the elevation of Sid Snyder Ave SW where it will connect to the existing sidewalk. A ramp will also connect the entry plaza to Sid Snyder Ave SW. The entry plaza paving materials are to be pavers with the option for permeable pavers.

Parking: The intersection of Columbia St SW and 15th Ave SW will be reconfigured to provide controlled access to the parking lots. A new crosswalk as well as sidewalks will provide pedestrian and bicycle access from the south onto the Capitol Grounds. New concrete sidewalks are to be added along 15th Ave SW. Parking control access gates to be located at the north parking entry at Sid Snyder Ave SW and Columbia St SW and at Sid Snyder Ave SW and Water St SW. Access gates are to be integrated with card reader and are to be appropriately rated crash rated. A security guard station is to be located at the intersection of Sid Snyder Ave SW and Water St SW.

Parking stall areas are to be permeable paving and drive aisles are to be paved with asphalt utilized warm mix asphalt and recycled asphalt materials if available. Trees will be planted in planting islands. Stormwater storage tanks are to be provided underneath the parking lots to capture building and parking lot runoff. A loading area with retractable bollards is to be provided on the south side of the Newhouse Building.

The existing pedestrian bridge connection is to remain.

Planting: The following trees are to be retained and protected in place: 13-15 (adjacent to Water St SW) 13-47, 13-46, 13-45, 13-44 (Adjacent to 15th Ave SW), 13-22, 13-23, and 13-1 (in the northeast corner of the site). Tree 13-15 is a significant tree that was noted as in fair condition when surveyed in 2008. Because of the proximity to demolition and construction activities, this tree should be surveyed again in order to determine the feasibility of preserving it during construction. Because the trees were surveyed in 2008, they should be resurveyed to establish their current condition and determine the feasibility of preserving them during construction. If the tree is to be removed, it shall be replaced with a specimen tree that is informed by the Landscape Preservation Master Plan. All demolished trees shall be replaced at a minimum of 1 for 1 with new trees. All proposed tree species should be informed by the historic preservation plan recommendations for new trees in this area.

Street trees and understory plantings will be added between 15th Ave SW and the parking lot to provide a buffer and screening for the South Capitol Neighborhood.

Planting and trees that front Sid Snyder Ave SW and the great lawn should build on the historic landscape preservation plan to create a layered understory. Bioretention areas and planting are to be added along Sid Snyder Ave SW and planting should match the bioretention along the north side of Sid Snyder Way SW. Planting will be predominantly native vegetation, will have an informal woodland character, and should be deer resistant to the greatest extent feasible. Spreading plants shall be placed away from sidewalks so they do not become a maintenance concern. Although a layered planting approach is intended, consideration should be given to sight lines and providing a visible, safe environment. All planting areas are to receive planting soil to 24" depth. Trees will have underdrains that tie into the storm system.

Significant tree schedule:

Tree #	Near	Species	Confirm Condition	Remove? Y/N
13-1	Visitor Center	Pseudotsuga menziesii	good	N
13-22	Visitor Center	Fagus sylvatica (significance noted – specimen)	good	N
13-23	Visitor Center	Thuja plicata (significance noted - specimen)	poor	N
13-25	Pedestrian bridge	Pseudotsuga menziesii	fair	Y
13-26	Pedestrian bridge	Pseudotsuga menziesii	good	Y
13-27	Pedestrian bridge	Pseudotsuga menziesii	good	Y
13-37	Visitor Lot/ Columbia	Arbutus menziesii (significance noted - specimen)	fair	Y
13-39	Visitor Lot/ Columbia	Arbutus menziesii (significance noted - specimen)	good	Y
13-41	Press House / Columbia	Acer macrophyllum (significance noted - size)	fair	Y
13-44	Newhouse / 15th Ave	Betula pendula	good	N
13-45	Newhouse / 15th Ave	Betula pendula	good	N
13-46	Newhouse / 15th Ave	Betula pendula	good	N
13-47	Newhouse / 15th Ave	Auracaria auracana (significance noted - specimen)	good	N
13-15	Newhouse/ Water Street	Pseudotsuga menziesii (significance noted - size, Olmsted tree)	fair	Y

* All other trees not represented in this table are not determined to be significant based on coordination with the 2008 tree survey and Brent Chapman. All significant trees that are removed are to be replaced with a specimen tree that is informed by the Landscape Preservation Master Plan.

Irrigation:

The irrigation system will meet the following criteria:

Install a central shut-off valve.

Install a submeter for the irrigation system.

All streetscape planting areas will either be spray irrigated or will be on their own zones in order to reduce potential fire hazards.

Create separate zones for each type of bedding area based on watering needs.

Install a timer or controller that activates the valves for each watering zone at the best time of day to minimize evaporative losses while maintaining healthy plants and obeying local regulations and water use guidance.

Install pressure-regulating devices to maintain optimal pressure and prevent misting.

Utilize high-efficiency nozzles with an average distribution uniformity (DU) of at least 0.70. This may include conventional rotors, multistream rotors, or high-efficiency spray heads, but the DU must be verified by manufacturer documentation or third-party tests. A point source (drip) irrigation system should be counted as having a DU of 0.80.

Check valves in heads.

Install a moisture sensor controller or rain delay controller. For example, “smart” evapotranspiration controllers receive radio, pager, or Internet signals to direct the irrigation system to replace only the moisture that the landscape has lost because of heat, wind, etc.

<u>Lighting:</u>

Vehicular pole lights are to be located in the parking lots and along Water St SW. Pedestrian scale pole lighting will be located at the entry plazas and along pathways to building entries. All lighting shall meet dark sky requirements.

Security lighting shall adhere to IES Guide for Security with minimum 5-5.5' candle rating and to not obscure or impact use of video surveillance cameras.

<u>Security & Safety</u>:

Landscape design should also support safe levels of visibility when arriving or departing building entrances, to and from windows adjacent to sidewalks and along primary pedestrian paths. Landscape and site shall be designed using principles that promote an environment that positively influences human behavior and quality of life by reducing the possibility of harm.

<u>Critical Areas Considerations:</u>

Based on Thurston county GIS mapping, there are no designated wetlands beyond the high-water mark of Capitol Lake adjacent to the project site. The southwest slope of the Pritchard site, between the site boundary and Capitol Lake, may be designated a Marine Bluff Hazard Area because this slope is over 50%. The Marine Bluff Hazard Area requires a minimum top of slope buffer of 50 feet. The existing west parking area encroaches on the 50-foot buffer. The proposed alterations to this this parking area include improvements but does not expand the parking area. There may be requirement to mitigate the area that encroaches on the buffer but that would need to be determined through future coordination with the county.

No disturbance will occur to the vegetation oh the hillside except to remove invasive species and add restoration planting.

October 30, 2020

PREDESIGN OUTLINE SPECIFICATION - DRAFT

Project: Legislative Campus Modernization (LCM)		Mithun Job #	1810000
Jurisdiction	City of Olympia	DES Project #:	18-527

00 General Requirements

00.1 Summary of Work

O'Brien Building
Partial alteration of 17,630 gsf the third and fourth floors of the O'Brien Building. This is an interior remodel that remedies the overcrowding, egress and accessibility deficiencies and right sizes offices.

Pritchard Building

Demolition and Asbestos Abatement of the Pritchard Building.

Construction of a new 72,342 gsf office building. The proposal is a three-story building. A rooftop penthouse will enclose part of the mechanical equipment with the majority of the roof top equipment exposed to the weather protected from view by a screened enclosure. Rooftop access will be provided by a stair to the roof. Photo Voltaic Panels will be mounted on the roof.

Project is to meet LEED Silver certification minimum and be net-zero ready.

The program consists of office functions including open office workstation areas, enclosed private offices, conference rooms, copy/scan rooms, and storage areas. Public functions in the building include an entry lobby with security office and reception, grab and go market and café/kitchen, and hearing and caucus rooms.

Newhouse Building
Demolition and Asbestos Abatement of the Erv Newhouse Building.

Construction of a new 64,765 sf office building. The proposal is a four-story building.

The program consists of office functions including open office workstation areas, enclosed private offices, conference rooms, copy/scan rooms, and storage areas. Public functions in the building include an entry lobby with security office and control station, public meeting room and production and design space with loading dock.

Project is to meet LEED Silver certification minimum and be net-zero ready.

A rooftop penthouse will enclose part of the mechanical equipment with the majority of the roof top equipment exposed to the weather protected from view by a screen. Rooftop access will be provided by a stair to the roof. Photo Voltaic Panels will be mounted on the roof.

Site Work
Site work will include fire lane improvements, accessible sidewalks and landscape improvements, surface parking and stormwater improvements.

Improvements related to site security:

- Vacation of Columbia Street SW between 15th Ave SW and Sid Snyder Ave SW to maximize parking capacity – see Civil narrative for utility work related to scope of work
- Provide street diverter at Water Street SW and 15th Ave SW to reduce traffic impacts on neighborhood and secure parking adjacent to buildings.
- Secured parking – provide security guard booth and control arms with integrated card reader at locations noted on plans

Temporary Facilities
Two story portable structures for temporary facilities.

G10 Site Preparation

G10.1 Demolition & Hazardous Waste Remediation

Demolition and abatement:

Newhouse Building

- Erv Newhouse building – Two story w/ basement 25,100 gsf
- Press houses (2)
  - Two-story w/ basement 3,714 gsf
  - Two-story w/ basement 5,576 gsf
- visitor center buildings (2) 870 gsf
- adjacent surface parking.

Pritchard Building
Demolition and abatement of the Pritchard building and adjacent surface parking.

Protection of existing trees.

Hazardous Waste Remediation:

- Pritchard Site: One 125-gallon above ground storage tank (AST) storing diesel fuel for a generator

G20 Site Improvements

G20.1 Paving, Plant Material, and Irrigation

Paving: Cast-in-place concrete for pathways, concrete pavers for the main entry plazas. Parking lot and fire lane for emergency vehicles is to be asphalt with concrete curb and gutters. See Landscape narrative for additional detail.

Plant Material: Planting shall be primarily native (indigenous) or adapted (introduced) plants that require less irrigation once established. The plants will be predominantly low maintenance and drought tolerant.

Preservation of significant trees.

Ramps to provide barrier free access will be integrated into the landscape and stairs at building entries.

Additional detail Per Landscape Narrative.

G30 Site Utilities

Per Civil Narrative

A10 Foundations

Per Structural Narrative

B10 Superstructure

Per Structural narrative.

B20 Exterior Closure

Work includes: Concrete Formwork, Cast-in Place Concrete, Concrete Finishing, Mortar and Grout, Masonry Accessories, Precast Cladding, Fire-Retardant Wood Treatment, Pressure Treated Wood Treatment, Bituminous Dampproofing, Bentonite Waterproofing, Water Repellents & Anti-Graffiti Coatings, Rigid Insulation, Batt and Blanket Insulation, Below-Grade Vapor Retarders, Water and Air Barriers, Flashing and Trim, Firestopping, and Joint Sealants, Exterior Sun Control Devices.

The exterior envelope will have higher levels of insulation than current Washington State energy codes require.

B20.1 Opaque Walls

70 % opaque wall area: precast veneer (to match other recent buildings on west campus) over metal stud back up walls - 16ga (50ksi) at 16" o.c. spacing with bridging at ¼ points along the stud span. T & B stud connection with tek screws provided to fasten interior and exterior flange of each stud to flanges of track of similar gage. Minimum R-22 batt insulation between studs and minimum R-20 continuous rigid insulation. The building will generally have punched openings as it's primary expression to relate to existing building on West Campus. There will be some areas such as the entry and exposure to the courtyard that will have glass curtain wall.

B20.2 Glazing

30% glazing area: Painted (fluoropolymer coatings) aluminum curtain wall with thermally broken frame. Glazing units to be 1" insulated, clear, argon filled, with low-E coating, PPG Solarban 70XL or similar. All south, east and west facing exposures to be protected with integral aluminum curtainwall sunscreen systems. Glazing on the first two floors above grade is to be laminated for blast protection.

Use of 3M safety/security film or similar to reduce full breakage of windows from projectiles. The assembly and connections to building structure to be designed for the capacity of supported glass panes (balanced design).

Add Alternate: Motorized operable windows for 10% of floor area to be naturally ventilated.

B30 Roofing

Work Includes:

B30.1 Roof Coverings

Flat roof: Fully-adhered TPO roof on 5/8" gypsum cover board. Slope minimum ¼" per foot to drain to sump pan and roof/overflow drains. Main roof drains to be tight-lined to storm system. Single-ply membrane over tapered rigid insulation (R-60), sloped to roof and overflow drains. Roof access via stair access. Fall protection anchors with lifeline system. Membrane walking mats.

C10 Interior Construction

Work Includes: Gypsum Board Shaft Wall Systems, Acoustical Wall Construction, Non-Structural Metal Framing, Ceiling Suspension System for Gypsum Wallboard, Isolated Ceiling Construction, Cementitious Backing Boards, Gypsum Sheathing

C10.1 Interior Wall Framing

Light-gauge metal stud construction. All partition walls that separate instructional space from each other will have sound retardant partitions.

Systems include both fire-rated and non-fire rated conditions. Installation of sound-deadening insulation in walls and ceilings and including acoustical sealant, tape and the like for the work in this section.

Installation of water-resistant gypsum wall board in toilet rooms and janitor closets and cementitious backing board behind ceramic tile.

C20 Stairs

C20.1 Stairs

Monumental Stair: Precast treads on steel stringers and treads, glass guardrail with wood handrails and top cap.

Egress Stair: Vendor engineered stair consisting of steel stringers, pan treads, metal risers, steel guardrail balusters and handrail. Concrete filled pans with cast in contrasting nosing.

C30 Interior Finishes

The interior finish for the building will be commensurate with the typical public space and office interiors found on the west campus.

Public Spaces: Entrance lobbies, elevator and stair lobbies, conference center, food vendor to have premium interior finishes.
Floors – Large format porcelain tile
Walls - Combination of wood paneling, and gypsum wall with porcelain tile base
Ceilings – Wood clad ceiling clouds with gypsum board surrounds.

Office Space:
Floors - Carpet tile
Walls - painted gypsum wall board with porcelain tile base
Ceilings - Acoustical ceilings with some perimeter gypsum wall board soffits

Restrooms:
Floors – Large format porcelain tile
Walls – Full height ceramic tile on wet walls over cementitious wall board with porcelain tile base
Ceilings - Acoustical ceilings with some perimeter gypsum wall board soffits

Janitors/Storage/Mech/Elect/IDF/MDF Closets:
Floors – Sealed concrete
Walls – Stainless steel wainscot over moisture resistant wall board with rubber base
Ceilings - Acoustical ceilings

Pritchard Building
Mural Relocation:
Include costs for relocation of two murals located in the Pritchard Building to the new building.

Callahan Mural – Located in the Washington Room in the basement of the Pritchard building. painted (oil on canvas) on small rectangular panels, each cut to scale to correspond to its actual location in the room. The completed mural, measures nearly four feet high by 170 feet long. Callahan's mural is divided into four sections, each representing a distinct historical period. The four sections are titled Primitive Life, Historical Period, Rise of Industry, and Twentieth Century.

Fitzgerald Mural - A marble mosaic wall located on the first floor of the building. Building specifications required that the mosaic be made of a series of reinforced panels, edged with brass, with marble pieces set in a mixture of ground marble, cement, and latex. Built on a steel frame wall, covered with reinforced wood panels and surfaced with a waterproofing membrane. A thin metal grid is attached to these wood panels and used a special elastic mortar to grout the individual marble pieces into the metal. The final product, Fitzgerald's 20'x16' mosaic, features individually positioned marble pieces tipped to reflect light from different angles. Brass edging (3/16" in width) outlines each of the 12 individual panels.

Tobey Painting – note that this will need to be removed and stored by owner prior to demolition and location planned in new building.

C30.5 Doors and Frames

General
Stained wood frames with sidelight and transom at all offices.

Stained 3-plywood veneer solid wood core doors to match frames.

C30.6 Casework

As required for class A office building.

Café to have custom counter (assume 35') with solid surface countertop and wood vertical surfaces. Include sneeze guards and stainless-steel backsplash. (see figure 1 at end for example)

Hearing room to have stepped podium (see figure 2 at end for example)

D10 Conveying Systems

Electric traction passenger elevators: two elevators, one of which is to be service elevator.

D20 Plumbing Systems

Per Plumbing Narrative

D30 HVAC Systems

Per Mechanical Narrative

D40 Fire Protection Systems

Per Fire Protection Systems Narrative

D50 Electrical Systems

Per Electrical Systems Narrative

E10 Equipment

- Conference rooms - Include projection screens
- Café – Equipment needed for grab and go style service and reheating of pre-prepared foods including prep area and kitchen.
- Break Rooms – Assume refrigerator and dishwasher

E20 Furnishings

Work includes: Roller Window Shades, Entrance Grates and Frames and Site Furnishings.

F10 Special Construction

Portable pre-engineered building to accommodate temporary relocation of programs assume 18,000 gsf, two-story modular buildings. Include costs for transportation, installation, site utilities, and removal and site restoration.

Figure 1

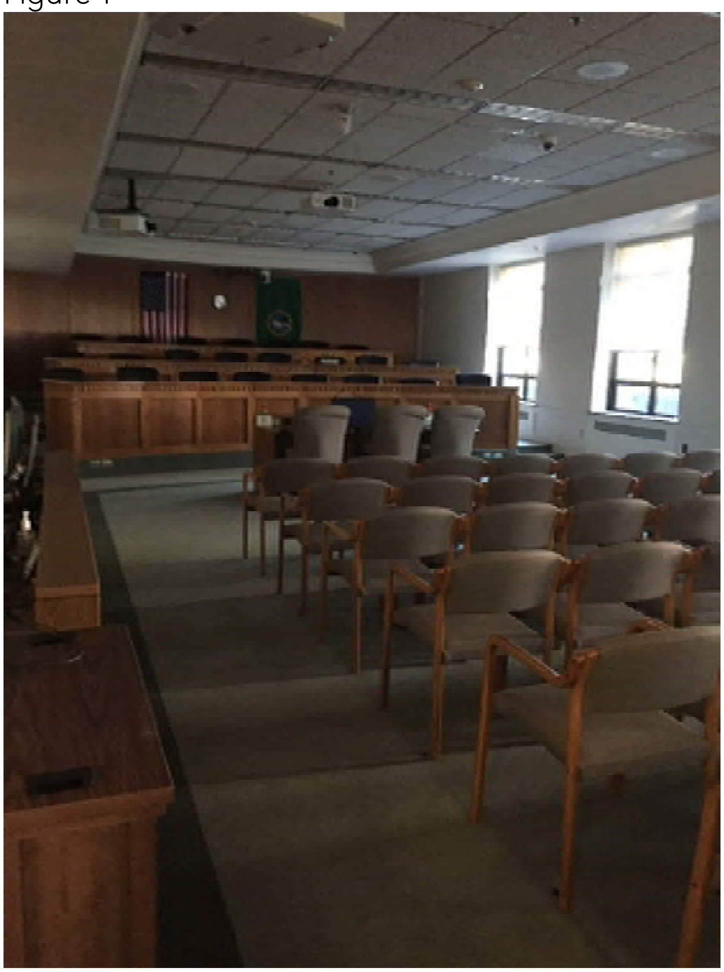

Figure 2

STRUCTURAL SUMMARY

Following is a summary of the structural design criteria for the project, considerations for the proposed sites, and a discussion of structural options. The report is divided into the following sections:

- DESIGN CONSIDERATIONS - The first section applies to the overall design of the two new buildings.
- NEWHOUSE SITE – Preferred structural option and considerations.
- PRITCHARD SITE – Preferred structural options and considerations.
- O'BRIEN BUILDING RENOVATION – Remodel in the existing building will not change existing structure. No further discussion is included.

DESIGN CONSIDERATIONS

1. The selection of the individual members of the structural system shall consider the overall structure depth of each floor level and the effect on ceiling cavity and other systems. Height limits may influence the selection of the structural system.
2. The roof will likely be designed for a combination of photovoltaic systems, green roofs, and mechanical systems.
3. The lateral force-resisting system location shall have the least interference with the openness of the office floor plate. Walls around elevator lobbies, stairs and utility rooms are likely to used.
4. The lateral force-resisting system is expected to be designed for standard office occupancy and is not considered to be an immediate occupancy structure. This needs to be reviewed with the State to be clear that there are no emergency services housed in the buildings. If a building needs to be operational immediately after a major earthquake for emergency services, this will require an increase in structural resiliency.
5. Floor flatness shall meet industry standards for Class A office floors.
6. Floor vibration control shall meet relatively tight standards so there is minimal perceptibility by occupants, this is expected to be a higher standard than standard office structures.
7. The selection of the structural systems and materials may be influenced by the security and blast protection requirements as directed by the State. This may include structural hardening, progressive collapse design, interior systems blast resistance, and increased strength in the exterior envelope. Site provisions will also determine the structural system requirements, for instance, adequate standoff distances and high-speed vehicle barriers may reduce the costs of the internal building system strengthening. DES recommends consultation with Hinman Consulting Engineers to review system selection. See Security Narrative.
8. The 2018 Washington State Building Code will require higher seismic design forces than previous building codes and this has been considered in the preliminary system selection for the lateral resisting systems and foundations. The preliminary geotechnical report by Shannon & Wilson provides preliminary site recommendations.

9. The soil conditions throughout the state capitol campus have required deep foundations and ground improvements on many sites. Shannon & Wilson recommends drilled pile foundations for support of the new buildings. A site-specific ground motion analysis must be conducted prior to the schematic design phase of the project as required by the 2018 Washington State Building Code. Additional information is in the attached geotechnical report for the predesign study by Shannon and Wilson
10. Sustainable construction goals will guide material selection and recycling of existing building structures.

APPLICABLE CODE AND STANDARDS

The project will be governed by the 2018 Washington State Building Code with City of Olympia Amendments and the 2018 Washington State Energy Code. Both codes shall be considered in the selection and design of the structural system. The following criteria and building code minimum design loads for floors, roofs, wind, and seismic.

LOADING CRITIERIA

GRAVITY LOADING

The following loads are in addition to the self-weight of the structure. The following live loads are recommended by the building code. Live loads are reduced where permitted.

Table 1. Floor and Roof Loads

Area	Live Loading	Super-imposed Dead Load	Note
Offices & Upper Corridor	80 psf throughout or offices at 50psf+ 20 psf for partitions	10 psf	
Lobbies and Corridors on Main Floor	100 psf	20 psf	
Stairs/Exits	100 psf	10 psf	
Mechanical/Electrical Rooms	150 psf	10 psf	1
Storage (light)	125 psf	10 psf	
Roof	25 psf (R) or Snow Drift Load	25 psf includes PV	

Notes:

1. The live load for mechanical/electrical rooms will be 150 psf, or the actual weight of the equipment plus 50 psf for the surrounding space, whichever is greater.

In addition to these uniform loads, a perimeter dead load is applied to the structure to account for the weight of the cladding system.

Table 2. Cladding Loads – actual loads may differ depending on system selection and sizes.

Load Type	Load
Glass Window Wall	15 psf
Precast Panel, sandstone, granite	75psf
Metal Panel	10 psf

SNOW DESIGN CRITERIA

Snow drifting, unbalanced loading, and partial loading are sometimes considered in the design of the roof framing. The following parameters for snow loads are in accordance with the building code:

Table 3. Snow Design Criteria

Parameter	Value
Ground Snow Load (Pg)	20 psf
Risk Category	II
Terrain Category	B
Exposure	Partially Exposed
Snow Exposure Factor (Ce)	1.0
Thermal Factor	1.2
Importance Factor (Is)	1.0
Flat Roof Snow Load (Pf)	25 psf

WIND DESIGN CRITERIA

The following parameters for wind loads are in accordance with the building code:

Table 4. Wind Design Criteria

Parameter	Value
Basic Wind Speed, 3-second gust (V)	97 mph
Exposure	B
Enclosure Classification	Enclosed
Topographic Factor	To Be Determined

SEISMIC DESIGN CRITERIA

The following parameters for seismic loads are from the pre-design geotechnical report and in accordance with the building code:

Table 5. Seismic Design Criteria

Parameter	Values at Newhouse Site	Values at Pritchard Site
Risk Category	II	II
Importance Factor (Ie)	1.0	1.0
Mapped Spectral Acceleration	Ss = 1.41; S1 = 0.52	Ss = 1.41; S1 = 0.52
Mapped Long Period	TL = 16 sec	TL =16 sec
Site Class	D	E
Site Class Coefficients	Fa = 1.00; Fv = 1.79	Fa = 1.20; Fv = 2.15
Spectral Response Coefficients	SDS = 0.94; SD1 = 0.62	SDS = 1.13; SD1 = 0.75
Seismic Design Category	D	D
Analysis Procedure Used	Modal Response Spectrum Analysis	Modal Response Spectrum Analysis

MATERIALS

The material properties used for the design include the following:

Table 6. Structural Steel Properties

Member	Standard, Strength
Wide Flange Shapes	ASTM A992, Fy = 50 ksi ASTM A913, Fy = 50 ksi
Tube Sections	ASTM A500, Gr B, Fy = 46 ksi
Pipe Sections	ASTM A53, Type E or S Grade B, Fy = 35 ksi
Angle and Channel Sections	ASTM A36, Fy = 36 ksi
Miscellaneous Plates	ASTM 572, Fy = 50 ksi
High-Strength Bolts	ASTM A325 or A490

Table 7. Concrete Properties

Member	Standard, Strength
Slab on Ground, Sidewalks, Curbs, Mechanical pads	f'c = 4,000 psi
Basement walls & footings, Spread Footings	f'c = 5,000 psi
Mat Foundations	f'c = 6,000 psi at 56 days
Shear Walls and Columns	f'c = 6,000 psi
Reinforcing Steel	ASTM A615, Grade 60 ASTM A415, Grade 60

NEWHOUSE SITE

The building on this site will be four stories as shown on preferred alternative diagrams. This will require removal of the existing building, including the basement. Existing foundations may remain if they do not interfere with the new pile foundations. The new site work in the existing building footprint will need to be filled with compacted soils. The existing building conditions were studied in earlier phase of the pre-design with significant costs for upgrades. Documentation is not included here since this is not the preferred option.

FOUNDATIONS

Foundations will be concrete pile caps supported by concrete augercast piles. The piles are 24-inch diameter with an average length of 100 feet below ground. Quantity is shown in table below. Piles will support continuous pile caps at the exterior walls and shear walls. Individual pile caps will be located at the columns. Additional information about the foundation conditions and options are discussed in the geotechnical report.

The ground floor will be a 4-inch slab on ground. The existing basement area will be filled with compacted structural fill. Outside the existing footprint, top soils and approximately 4’-0” of soil will be over-excavated and recompacted below slab.

GRAVITY AND LATERAL FRAMING SYSTEM

The building on this site is expected to be constructed of structural steel framing with concrete on metal deck floors and roof. The selection of structural system will be controlled by the design considerations mentioned above, the configuration of the building, and the physical security requirements.

The structural system used for the predesign estimate is steel wide-flange columns and beams with buckling-resistant-braces to resist wind and seismic forces. The exterior beams will be welded to columns for continuity as needed for progressive collapse resistance. The steel beams and columns will be fire-proofed with spray-on fireproofing or may be wrapped with multiple layers of gypsum wallboard. Structural floor system depth may be in the range of 24" to 30" depending on span lengths and floor layout.

The ground floor for this building is not expected to be pile supported with the rest of the structure because the liquefaction settlements are less than at the Pritchard site. This means that an earthquake could cause floor settlement and damage to finishes. Careful detailing will be required to protect exit paths and life-safety.

Table 8. Newhouse Site Estimated Quantities

ITEM	ESTIMATED QUANITY
BACKFILL	Compacted structural fill in area of existing basement that is removed
24" DIA x 100 ' LONG REINFORCED PILES	60 piles
PILE CAPS	Located at columns and grade beams between all columns
GROUND FLOOR	4" concrete slab on compacted fill
UPPER FLOORS AND ROOF	Structural steel framing: 12 psf
BUCKLING RESTRAINED BRACES	6 total per floor
FLOOR SYSTEM	4-1/2" concrete over 2" metal deck with reinforcing and headed studs on steel beams. (2-1/2" may be acceptable at roof depending on equipment)
ADDITONAL	Added cost for perimeter welding per security protection, 1 psf miscellaneous steel for cladding support

PRITCHARD SITE

Evaluation of the conditions of the existing structure are not included in this report. Seismic safety, upgrade measures, and deterioration repairs were evaluated during earlier phases of the pre-design development. The documentation is not included since it is not the preferred option.

PROTECTION ADJACENT TO STEEP SLOPE

According to the pre-design geotechnical report, the hillside on the west side of the existing Pritchard Library is potentially unstable. An earthquake may cause the hillside soils to lose strength and cause a slide that could undermine the soils beneath the building. The geotechnical report recommends that the building be supported on pile foundations to reduce the risk of settlements in the liquefaction prone soils. The building foundations are set back 100 feet from the top of the slope to eliminate risk of soil loss under the building if the slope has a slide. Strengthening of the hillside was studied to allow placing the building closer to the top of the slope but it was determined that cost and accessibility for construction equipment make the preferred option more feasible.

SOIL CONDITIONS AND FOUNDATIONS

The Pritchard Site is susceptible to liquidation settlements in an earthquake. Differential settlements of 6" may occur across the site and would cause substantial damage to structures. Due to the liquefaction potential, the new building will be supported on auger-cast concrete piles. The lower floor will be a structural slab spanning to the pile caps so that it does not settle away from the building structure. This provides the least risk for injury to occupants in an earthquake.

Foundations will be concrete pile caps supported by concrete augercast piles. The piles are 24-inch diameter with an average length of 100 feet below ground. Quantity is shown in table below. Piles will support continuous pile caps at the exterior walls and shear walls. Individual pile caps will be located at the columns. Additional information about the foundation conditions and options are discussed in the geotechnical report.

The existing basement area will be filled with compacted structural fill. Outside the existing footprint, top soils and approximately 4'-0" of soil will be over-excavated and recompacted below slab.

GRAVITY AND LATERAL FRAMING SYSTEM

The building on this site is three story and is estimated as structural steel framing with concrete on metal deck floors and roof. The selection of structural system will be controlled by the design considerations mentioned above, the configuration of the building, and the physical security requirements.

The structural system used for the predesign estimate is steel wide-flange columns and beams with buckling-resistant-braces to resist wind and seismic forces. The exterior beams will be welded to columns for continuity as needed for progressive collapse resistance. The steel beams and columns will be fire-proofed with spray-on fireproofing or may be wrapped with multiple layers of gypsum wallboard. Structural floor system average depth may be in the range of 24" to 30" depending on span lengths and floor layout.

The upper floors are cantilevered to the west over the setback Level 01 and foundations. The cantilever of 82-feet will require support by two-story steel trusses built on site that connect back into the structural braced frames. These truss diagonals will be visible on the north and south walls of the building. Trusses below the Level 02 floor will span across the building and support columns for the upper floors and roof.

Table 9. Pritchard Site Estimated Quantities

ITEM	ESTIMATED QUANITY
BACKFILL	Compacted structural fill in area of existing basement that is removed
24" DIA x 100 ' LONG REINFORCED PILES	140 piles
PILE CAPS	Located at columns and along basement walls
BASEMENT WALLS	12" concrete walls, some retaining soil on exterior of building
GROUND FLOOR	8" Reinforced concrete two-way slab spanning to walls or pile caps on compacted fill and thickened slab edge
UPPER FLOORS AND ROOF	Structural steel framing: 13 psf plus 110 tons for trusses supporting cantilever
BUCKLING RESTRAINED BRACES	10 total per floor
FLOOR SYSTEM	4-1/2" concrete over 2" metal deck with reinforcing and headed studs on steel beams. (2-1/2" may be acceptable at roof depending on equipment)
ADDITONAL	Added cost for perimeter welding for security protection, 0.5 psf for miscellaneous steel for cladding support

LCM Predesign

Phase 2 Predesign MEPT Technical Report

November 13, 2020

pae-engineers.com

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November 13, 2020

Project Directory

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1.0 Project Description

1.1 Executive Summary

The following building systems are planned to help achieve the project goals and keep the project.

1.2 General Building Description

The project will be located on the sites of the existing Newhouse and Pritchard buildings. The O'Brien tenant improvement is shown in Section 7.

1.3 Sustainability Goals

The building will be designed to meet the minimum requirements for a USGBC LEED Silver certification. A gold certification will be evaluated as the design progresses to see if it can be achieved within the project budget.

The project has a number of performance goals that will direction measures of the MEP systems throughout the design. These include the following goals:

— Energy Use Intensity (EUI) no greater than 35.
— Governor's mandate for Net Zero – Executive Order 20-01.
— Contractual energy performance mandate.

The Department of Enterprise Services (DES) has stated that they will exclude the efficiency of the current central plant for the net zero calculations (but include the efficiency of the new planned central plant in the future). All energy used from the central plant is thus considered one unit of energy excluding efficiencies at the plant.

The systems planned below will allow the project to achieve the energy goals and a path to net zero is also shown.

WHAT IS SUSTAINABILITY?

Sustainable design is often referred to as green design or high performance. Traditionally, decisions are made based on the economic bottom line approach, which is generally only concerned with short term cash flows. A sustainable approach looks at the triple bottom line – economy, ecology, and equity. Decisions are made with concern for the balance between profitability, preserving our natural systems, and benefiting the needs of society.

THE PATH TOWARDS SUSTAINABILITY

There are 6 main steps to take in designing and maintaining a sustainable building.

— Set aggressive project goals.
— Understand the local micro-climate.
— Reduce energy and water use.
— Design highly efficient mechanical and electrical systems.

— Utilize on-site renewable energy sources.
— Commission the building and meter everything.

WATER BUDGET

A highly sustainable building would use no more water than the amount of rainfall that falls on its roof annually. All rainwater that falls on the site would be used or retained on the site. Finally, all wastewater generated in the building would be treated on the site.

Olympia, Washington, receives approximately 50 inches of rainfall annually. By reclaiming this rainwater and designing building and landscape water systems to reduce consumption as much as possible, we hope to live within this natural water budget.

For current economic reasons, we don't anticipate being able to treat the wastewater on-site. The proposed Water Use Intensity (WUI) for the building is: 6 gallons/ft^2/year.

ENERGY BUDGET

Sustainable design requires a careful analysis of the building's energy use and the source of that energy. Ideally, a sustainable building would produce its own power without generating any pollution or purchase its power from a renewable source (i.e. fish friendly hydro, bird friendly wind, photovoltaics, etc.). In addition, it would use no fossil fuels.

A highly sustainable building would use no more energy than the amount present on the site, which may include solar, wind, geothermal, tidal, etc. The solar energy that hits the roof of our building is the most directly harvested renewable energy source. Current photovoltaic technology allows only approximately 20 percent of total solar energy to be harnessed for use in this building.

Designing a building that uses significantly less energy will require focusing on many elements; envelope, lighting, mechanical and electrical equipment, and equipment used by the occupants. By implementing some of the systems described in this narrative, the energy consumption can be reduced by 10-40 percent compared with a baseline code building.

The chart below shows a range of possible performance options. PAE did not have scope to do energy analysis during the predesign. Since these buildings have extended schedules achieving an EUI of 35 may be very challenging. It is critical that full energy analysis is implemented early in the design process to assess how the performance measures up to the target EUI of 35.

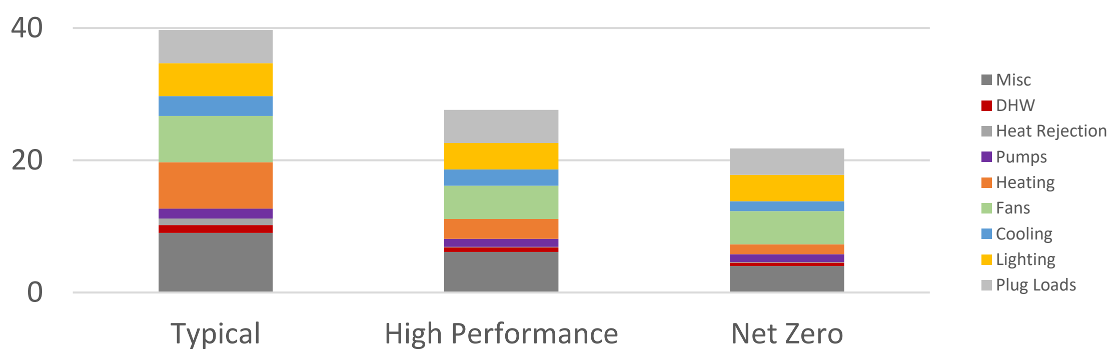


Figure 1: Energy Benchmarking

ON-SITE ENERGY

Sustainable design requires a careful analysis of the building's energy use and the source of that energy. The following diagrams show the concept locations for solar on the roof for both Pritchard and Newhouse. Revisions to the campus electrical loop will be required to implement this.

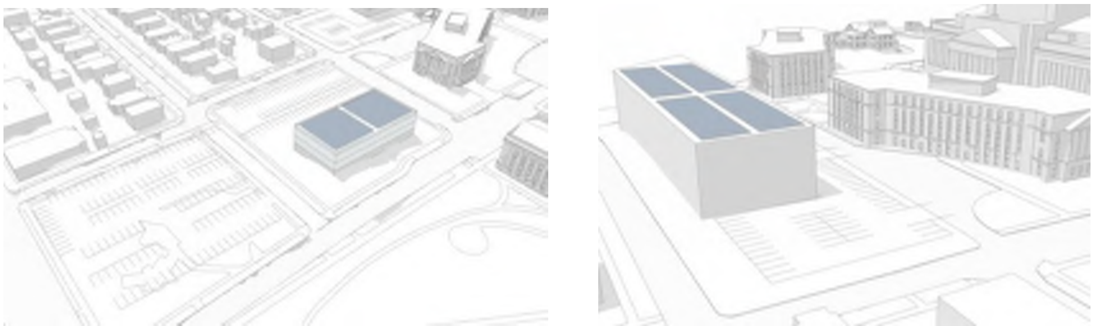


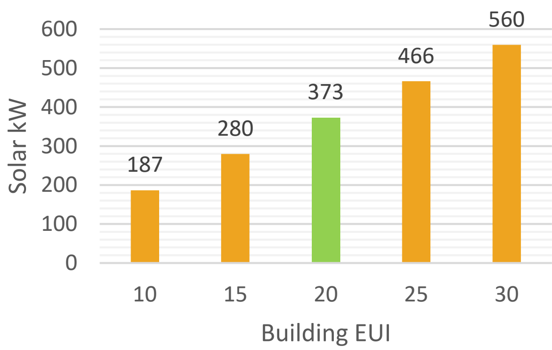
Figure 2: On-site Energy

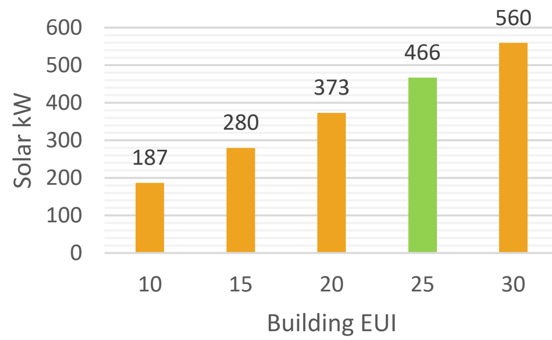
Rooftop PV systems can be optimized during design by eliminating the need for clearance between rows. This can be achieved by sloping the roof slightly (5-10 degree) to allow for the panels to lay flat on the surface.

Figure 3: Rooftop Solar with Minimal Spacing

PRITCHARD - EUI + ON-SITE ENERGY

In order to meet the Governor's mandate of net zero solar, PV in addition to the rooftop is required. The chart below shows the additional area needed for solar beyond the rooftop of the concept plans per EUI (note the solar layouts are assumed to have rows only for fire access). Achieving layouts this dense is possible but it will require the design team to plan for it from early in the design process.

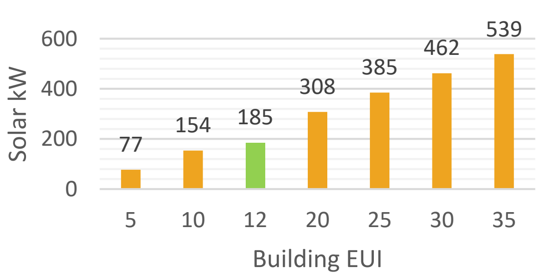


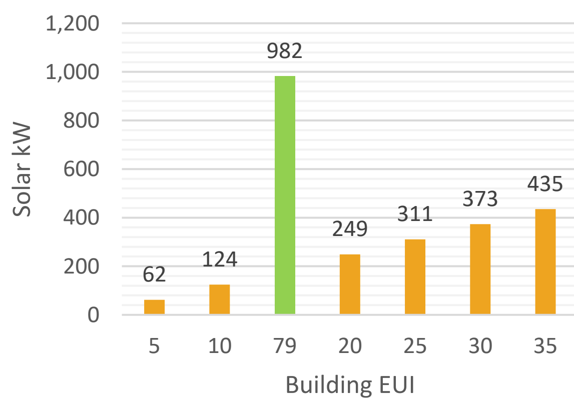


Note how the roof only provides around an EUI of 20. Additional solar area is needed to meet the net zero mandate. If the building was hyper efficient it could potentially get down to an EUI of around 20 but this seems challenging based on the occupancy requirements. The EUI of around 23 is possible if site solar elements are added over parking.

NEWHOUSE - EUI + ON-SITE ENERGY

In order to meet the Governor's mandate of net zero solar, PV in addition to the rooftop is required. The chart below shows the additional area needed for solar beyond the rooftop of the concept plans per EUI:





Note how the roof only provides around an EUI of 12. Additional solar area is needed to meet the net zero mandate. While PV above parking is not preferred, PV above parking has the potential to increase output of the solar significantly. This solar could be used in combination with Pritchard to make both new buildings net zero energy. This would be a clear demonstration of the State's commitment to achieving NZE.

DISTRICT ENERGY SYSTEMS EMISSIONS

The energy code is shifting to emissions for building performance and the following shows emissions rates as noted from DES for the campus central plant (both new and existing):

For the new district energy system (date of completion to be confirmed by design team):

— NC3 Thermal (hot water) Plant = 121.4 lbs. CO2e/MMBtu (This does not consider the CHP, heat sharing or thermal storage. Until the plant is finalized this is a placeholder value).

— NC3 Thermal (CHW) = 0.58 lbs. CO2e/ ton-hour of cooling.

— NC3 Electricity = 824lbs CO2e/megawatt hour

For the current steam and chilled water system:

— Steam = 312lbs CO2e/MMBtu

— CHW = 0.58 lbs CO2e/ton-hour of cooling

1.4 Codes and Standards

Include all applicable codes, guidelines, regulations and other references that will be put into practice.

— 2018 International Building Code with Washington State Amendments

— 2018 International Mechanical Code with Washington State Amendments

— 2018 Uniform Plumbing Code with Washington State Amendments

— 2018 International Fuel Gas Code with Washington State Amendments

— 2017 National Electrical Code with Washington State Amendments

— 2018 International Fire Code with Washington State Amendments

— 2018 Washington State Energy Code

— ASHRAE Standard 62.1-2013 – Ventilation

— ASHRAE Standard 55-2013 – Thermal Comfort

— ASHRAE Standard 90.1-2013 – Energy Standard for Buildings except Low-Rise Residential

— ASHRAE Standard 135-2012 – BACnet, A Data Communication Protocol for Building Automation and Control Networks

— AMCA – Standard 99 (Air Movement and Control Association International, Inc.)

— NEBB – TAB Standards

— SMACNA – Fire and Smoke Damper Installation Guide.

— SMACNA – Guidelines for Seismic Restraints of Mechanical Systems.

— SMACNA – Standards for Duct Construction.

— NFPA - National Fire Protection Association.

— NFPA 13 – Standard for the Installation of Sprinkler Systems.

— NFPA 90A – Air Conditioning and Ventilating Systems.

— NFPA 101 – Life Safety Code.

— ADA or Uniform Federal Accessibility Standards.

— UL – Underwriters Laboratories.

— OSHA Part 1910.1450 – General Environmental Controls

— EPA – Environmental Protection Agency.

2.0 Mechanical Systems

2.1 Scope of HVAC Systems

The following outlines the mechanical systems for Pritchard and Newhouse.

HVAC SYSTEMS

When looking at mechanical system options there can be myriad variations as shown in the diagram below. The key to help narrow the options is to establish clear, measurable goals early for the project.

During the predesign phase the key is to identify a system or systems that can meet the goals of the project and provide reasonable pricing to be moved forward for funding. The following options show pathways forward including using campus steam and chilled water while also exploring on-site heating and cooling equipment.

2.2 Heating, Ventilating and Air Conditioning (HVAC)

NEWHOUSE AND PRITCHARD SYSTEM OPTIONS

It is anticipated all normally occupied interior portions of the building will be heated to between 68 to 70°F, cooled to 74 to 76°F, and provided with ventilation to prevent buildup of CO2 and control odors. All spaces with adequate ventilation capability via manually operable windows tied to the BMS that will allow extended upper limit cooling setpoints (extended comfort range). No active humidity control is included (note no operable windows are allowed on the ground floor). Operable windows allowed above ground floor, however, cannot allow a person to climb through and recommend integration into campus Genetec security platform for monitoring of window state.

CAMPUS SYSTEM CONNECTION

The proposed sites have the following campus utilities available nearby:

— Campus cooling water (CCW)

— Campus Steam

The design shall identify the appropriate node at which to locate campus connections based on available capacity, physical space to make connections, and length of utility branch routing. Verify campus connections per the 2017 Utility Renewal Plan.

AIR HANDLING UNIT - DEDICATED OUTSIDE AIR SYSTEM (DOAS)

Ventilation would be provided by a dedicated outside air system (DOAS). A DOAS system offers a number of benefits in that it will help meet and exceed the Washington State Energy Code (WSEC) requirements while helping to ensure excellent air quality in the building and disassociate the building heating/cooling from the ventilation.

Each DOAS AHU will be provided with the following components along with the standard access sections:

— Outside air damper
— Relief/exhaust air damper
— MERV 13 supply air filter
— MERV 10 return air filter
— Total energy recovery section (minimum 70% efficiency)
— Heating coil
— Cooling coil
— Supply and return fan arrays (assume 6 fans with one redundant)

Ductwork, where used, for environmental systems will be galvanized steel. Medium pressure duct mains for VAV HVAC systems with terminal control devices will be double walled galvanized steel (solid outer duct, perforated liner, with fiberglass insulation in between). Other ductwork requiring insulation (inside the building) will be wrapped. Fiberglass duct liner will be used in limited quantities for sound attenuation and combination sound attenuation/thermal performance where appropriate. Flexible ductwork will be limited to short runs (six feet, or less) for final connections at diffusers and grilles. Diffusers and grilles, where used, will be selected with consideration for required space NC levels as directed by the acoustical consultant.

Air intakes will include emergency shutdown, evacuation procedures and will be protected with fencing.

DISTRIBUTION BY SPACE TYPE

Lobbies, loading docks, mailrooms and areas susceptible to attack with chemical/biological/radiological agents will have isolated distribution zones from other building areas.

Meeting Rooms – Each will be provided with a variable air volume (VAV) terminal, which will be controlled to maintain a CO2 level setpoint 700 PPM above the outdoor condition. The VAV terminal boxes will include hydronic reheat coils to help maintain the space temperature setpoint. Supplemental heating and cooling will be provided by four pipe fan coils or other radiant technology with local zone control valve and thermostat.

For rooms with operable windows, sensors will monitor when outdoor conditions are optimal, and the BMS/HVAC system will shut down for appropriate areas. No operable windows will be on the 1st floors.

Offices - Each group of offices will be provided with a constant volume (CV) air terminal, which will be controlled to maintain a specified airflow at all times. The CV terminal boxes will include hydronic reheat coils to help maintain the space temperature setpoint. Supplemental heating and cooling will be provided by four pipe fan coils or other radiant technology with local zone control valve and thermostat. Zoning controls will be provided for every perimeter office.

Toilet rooms, Janitor's closets, and other areas requiring 100% exhaust – These spaces will be provided with constant volume exhaust air dampers. The system will be sized to provide 10 air changes per hour in the toilet rooms and janitor's closets and will be balanced to maintain a slight negative pressure in these spaces relative to the rest of the building for odor control.

HVAC - CHILLED WATER & HEATING WATER SYSTEM

Central Utility Plant & ASHP

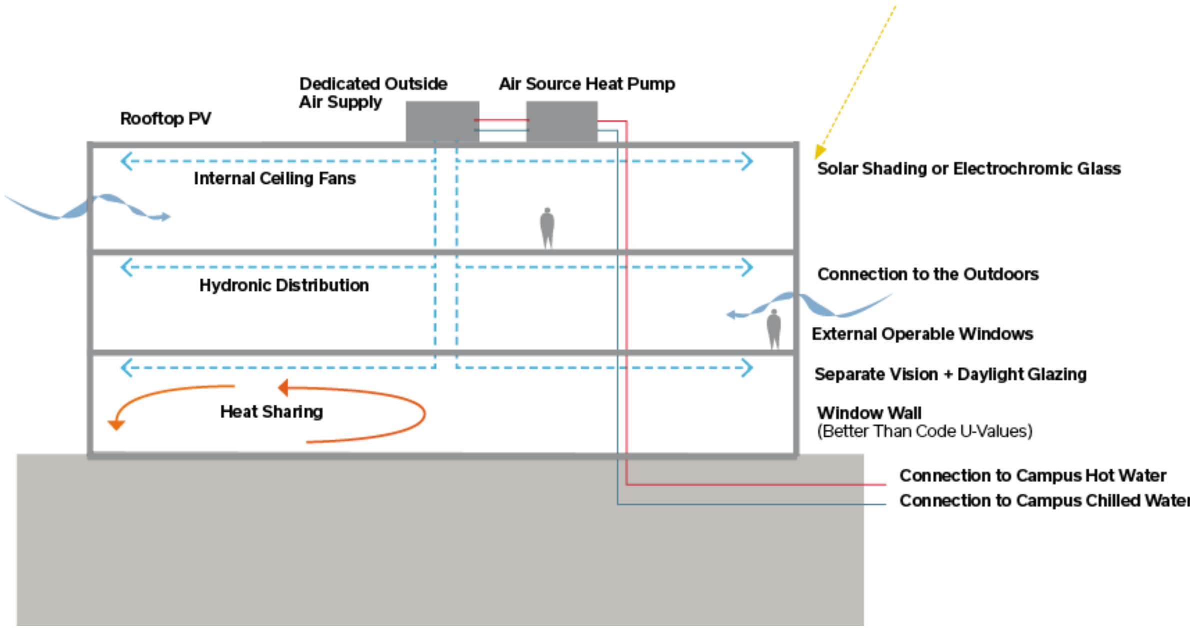


Figure 4: Option 2 - Central Utility Plant & ASHP

The building's chilled water and heating water loop will be served by air source heat pumps (ASHP).

Multiple heat pumps shall be provided for partial redundancy and to allow for maintenance of the system. These units will share a common header but will have the ability to be isolated while the remaining equipment continues to operate.

The heat pumps will be modular type with the capability to transfer energy between the cooling and heating system when both are required.

The ASHP sized to optimize annual energy performance which will likely be around 60-90% of the peak load. The rest of the heating and cooling loads will be accommodated by connections to the central heating and cooling plant on the capitol campus.

HEAT GENERATION

The primary heating hot water source for the building will be from the air source heat pump. The heat pumps will first transfer energy from the chilled water loop to the heating water loop whenever possible.

Campus steam will be available onsite and will pass through a heat exchanger to generate hot water in the building. The steam will only be used for peak conditions with the majority of annual operating hours being met by the air source heat pump.

Low temperature heating water will be distributed throughout the building using three end-suction pumps (N+1 redundancy) and controlled by VFD's. The heating water loop will be set up as a primary water flow arrangement with the pumps controlled to maintain minimum flow through the modular heat pump sections and a by-pass valve controlled to maintain a specific pressure setpoint in the heating hot water loop.

The system will be designed for low temperature heating with a supply temperature of 110°F and a return of 90°F.

Distribution piping for heating and chilled water will be either schedule 40 black steel, Type L copper or PEXa (bid option to achieve best pricing). Hydronic pipe insulation will be fiberglass with vapor barrier jacket. PVC jacketing will be provided where pipe insulation is subject to damage or the elements.

Steam will be utilized from the Campus Distribution system as the secondary heat source for this building. The steam and condensate pipes will connect to the mains in the service tunnel adjacent to the site. The steam heat exchangers and pumps will be sized to serve the entire heating loads for the building. Steam heat exchangers will be located in the building.

The steam connection, condensate pump and condensate return pipe will be provided including condensate return piping routed to the campus return. Drip legs and steam traps to be provided at intervals dictated by the final steam routing strategy.

The project will be designed to accommodate a future heat exchanger for campus hot water (which is planned to replace the steam). The planned system is an onsite natural gas boiler that would operate around an 85% efficiency (per the 6/29/2017 District Energy Renewal Project). Utilizing a central plant with heat pump technology would greatly improve the campus efficiency and help the project achieve net zero energy.

BUILDING COOLING

Chilled water will be provided by the air source heat pump and will be circulated to the cooling coils (42 degrees F supply / 54 degrees F return) in building air handling equipment and other terminal devices via three (N+1 redundancy) end-suction chilled water pumps. Peak conditions will be met with the campus chilled water loop which will be available on site.

Separate distribution loops will also be provided, and controlled to deliver higher supply water temperature, to serve the radiant cooling systems (i.e. chilled sails) throughout the building. Each non-condensing chilled water loop will have an in-line zone pump (ZP) with 4 open/closed valves and a three-way mixing valve.

The Campus Chilled Water (CCW) system is not available at all times of the year since the chillers are de-activated in the winter and portions of the shoulder seasons and the plant only circulates water through the system. The campus chiller plant is operational (April through October) but it is not operational from November through March. Localized cooling for IT closets or other annual high load spaces will be provided with split systems.

Outside air is provided to the inlet of the Fan Coil unit from the DOAS air handling unit on the roof via terminal units. The fan coil units will be provided with condensate drainage off the cooling coil and routed to the nearest sink tailpiece or indirect drain. Demand control Ventilation (DCV) will be provided for all high occupancy spaces such as class- rooms, medium and large conference rooms, or other gathering spaces.

HYDRONIC ZONE DELIVERY

The decisions on hydronic zone delivery should be made during the future design process. There are many options on how to meet loads in spaces with hydronic heating and cooling including radiant floors, active chilled beams, fan coil units, passive chilled beams, radiant panels, radiators and more. This choice will need to be made based on the project budget and design strategies that are implemented.

MECHANICAL PENTHOUSE

The building should include pricing for a rooftop penthouse to protect equipment from weathering and allow for easier maintenance access. The penthouse would be similar to other buildings on campus with weather enclosures for rooftop mechanical equipment. An alternate could include mechanical screening and equipment rated for the outdoors.

HVAC INSTRUMENTATION AND CONTROLS

A direct digital control (DDC) system (JCI Metasys) is planned for the mechanical systems in this building. The system will be based on the architecture and capabilities associated with the allowed control systems on the Capitol Campus. The system will utilize electric actuators throughout, thus eliminating the need for a control air compressor and distribution system. Standard control algorithms will be used to a large extent but will be supplemented with custom programming. Advanced control strategies are anticipated including unoccupied during occupied hours set-back, CO2 monitoring and ventilation air reset, supply water temperature reset, variable flow reset, etc. The system will connect to occupancy sensors, where provided for lighting control, for use in determining occupancy-based system resets.

Provide emergency shutoff and exhaust systems for the air handling units. Emergency protocols will be able to shut all building dampers from the BMS.

System controls will be protected from unauthorized access.

TESTING, ADJUSTING AND BALANCING

Full dry-side and wet-side testing, adjusting, and balancing will be provided for this project in accordance with NEBB Standards and Procedures.

OTHER SPECIAL HVAC SYSTEMS AND EQUIPMENT

Seismic bracing and anchorage will be required for the mechanical systems (equipment, piping, ductwork) in compliance with current Code (non-critical facility designation).

Additional energy efficiency will be achieved through an enhanced envelope. Additional insulation, glazing performance, and infiltration will be utilized to reduce energy load on the building. An emphasis will be placed on reducing infiltration and infiltration will be tested on site.

3.0 Plumbing Systems

3.1 Design Criteria

PLUMBING FIXTURES

Commercial grade fixtures will be provided where indicated on the architectural drawings. Refer to table below for representative flow rates for each type of fixture.

Low flow, water-conserving devices, faucets, flush valves and fixtures shall be implemented to meet the project's LEED and sustainability goals for water use reduction.

— Water closets shall be wall mounted vitreous china with sensor operated low-flow flush valves (1.28 gpf).
— Urinals shall be wall mounted vitreous china, sensor operated pint flush valves (0.125 gpf).
— Wall mounted lavatories and counter mounted lavatories shall be vitreous china with 0.35 gpm sensor operated faucets. Lavatory traps and supplies shall be insulated per accessibility requirements.
— Sinks shall be stainless steel, with single lever faucets of cast brass construction. Janitor's sinks will be floor-mounted terrazzo with wall faucet and lever handles. Handicapped accessibility will be provided for throughout in accordance with the requirements of the Americans with Disabilities Act.
— Showers shall be low flow (1.25 gpm).

DOMESTIC WATER DISTRIBUTION

Plumbing systems selections are based on reliable and efficient operation and with emphasis on sustainability. Domestic water piping shall be Type L copper with full port ball valves for control and isolation. Storm, vent, and sanitary waste piping shall be cast iron no-hub providing quiet and long service life.

Reverse Pressure Backflow Assemblies shall be provided for the system. A new cold water supply shall be sized for the anticipated peak demand of the new facility. The main entry point for water service will be in a mechanical room. A distribution header will be established there with zone isolation valves and a main building valve.

A steam to water semi-instantaneous heater sized for 100% of total hot water demand will be provided to produce hot water at 130°F with an initial operating set point of 120°F.

Hot water will be maintained via a circulation pump and distribution loop. A recirculating domestic hot water loop and hot water circulation pump will be provided. The water will be distributed at 120°F to the fixtures. A thermal expansion tank will be provided to minimize pressure buildup when the system is not being used.

If connections to water occur outside of facility, appropriate security measures are required.

PIPE INSULATION

All hot water and hot water recirculation piping shall be insulated per the Washington State Energy Code. Insulate all water piping in unheated spaces to code minimum and heat tape where subject to freezing temperatures. All pipe insulation shall be continuous through piping supports with no thermal bridging at supporting locations. Hot and cold water piping shall not touch.

SANITARY WASTE

A gravity sanitary drainage system will be provided to serve all plumbing fixtures and equipment.

Materials:

- Drain, Waste, Vent Piping (above grade): Cast Iron
- Waste Piping (below grade): PVC, ABS, or Cast Iron

RAIN WATER DRAINAGE

Gravity primary and overflow storm drainage shall be primarily via interior rain leaders, routed down through the building, connecting to site collection piping just outside the building footprint on the perimeter of the building. Overflow drains will terminate at grade level on splash blocks. Below grade areas shall be protected with dewatering systems at the foundation perimeter (if required). Dewatering systems shall be piped to duplex gray water pumps located in the basement areas which shall be discharged to the site storm drainage system.

Materials:

- Storm Drain Piping (above grade): Cast Iron
- Storm Drain Piping (below grade): PVC, ABS, Cast Iron

RAINWATER CAPTURE & REUSE (ADD ALTERNATE)

Rainwater from the roof of the buildings shall be collected, filtered through vortex filters and directed to cisterns. Captured rainwater shall be used for irrigation and for toilet flushing. The mechanical space for the rainwater systems include a pumping and pressurization system. These shall include a multi-stage pump, pressure tank, controls, automatic backwash filter, carbon filter, dye injection and make-up water with RPBP backflow prevention.

ZONE VALVES

Each plumbing system serving project spaces will be isolated by zone valves, to facilitate service and maintenance.

Seismic bracing and anchorage will be required for the plumbing systems (equipment, piping) in compliance with current Code (non-critical facility designation).

FIRE PROTECTION SYSTEMS

Sprinklers

Full coverage using a wet-type fire sprinkler system is anticipated for the interior areas of this building. Minor exterior overhangs at covered entry / egress ways will be provided coverage through the use of dry legs off of the wet system. The Fire department connection will be located outside the building collapse zone. The riser will be located in a mechanical room. Most areas will receive standard coverage, quick-response sprinkler heads.

Standpipes

With the currently planned floor-to-floor heights, standpipes are required in exit stairwells.

Fire Protection Specialties

Not Applicable.

Plumbing Security

Secure handles, control mechanisms and service connections at on-site publicly accessible locations with locks or other anti-tamper devices.

4.0 Electrical

4.1 Electrical Service and Distribution

ELECTRICAL SYSTEMS

The following outlines the electrical systems for the new Newhouse and Pritchard buildings. Based on the architectural options and footprints, the buildings will have similar electrical infrastructure, any deviations will be noted below, but it should be generally assumed that the buildings will have similar infrastructure.

DESIGN CRITERIA

Load Densities - Lighting and Power Systems

The following load allowances will be provided for the project:

Table 1: Lighting and Power Load Densities

Area	Lighting Systems (VA/SF)	Power Systems (VA/SF)
Offices	0.7	7 – 10
Circulation/Transition	0.5 – 0.6	1.0
Lobby	1.0	1.5
Service Areas	0.5	0.5
Stairs	0.5	0.5
Restrooms	0.7	1.0
Storage	0.7	0.5
Surface Parking	0.25	0
Mechanical/Electrical Areas	0.5	0.5

NEW BUILDING SERVICES

The buildings will be served from the campus medium voltage loop operating at 12.47 kV. Each new building will require one medium voltage transformer to derive the 480/277V power required for serving building loads. The transformers will either be dry type unit substation style or pad-mount oil-filled units.

During initial construction it is assumed that no electrical infrastructure redundancy will be provided or required. The buildings or sites will be equipped with an incoming three-position MV source transfer Vista switch, to accommodate future planned infrastructure projects to each building. The MV switch will provide a single 12.47kV protected feed to each new building transformer.

The service size estimate for the new Pritchard building is approximately 1500 kVA, which will require one 1500 kVA medium voltage step down transformer. The switchgear will provide a single 12.47kV feed to the new building transformer with future provisions for providing MV circuit redundancy or connection to a co-generation loop.

The service size estimate for the new Newhouse building is approximately 1500 kVA, which will require one 1500 kVA medium voltage step down transformers. The switchgear will provide a single 12.47kV feed to the new building transformer with future provisions for providing MV circuit redundancy or connection to a co-generation loop.

Table 2: Program Options (Based upon the largest SF for each Architectural option)

Program Option	Building Area (GSF)	Service Size Estimate (kVA)
Pritchard	65,000	1,500
Newhouse	56,000	1,500

Distribution

The main service to each building will be approximately a 2000A service and the main service voltage of 480Y/277V will be used to feed lighting and mechanical loads. A secondary voltage of 208Y/120V will be derived using energy efficient dry type transformers providing a level of isolation from other loads and deriving a new grounded neutral point.

Power distribution throughout the building will be accomplished with conduit and wire feeders to satellite electrical rooms at 480/277V. Satellite electrical rooms will contain step down transformers and 208V branch panels to serve the receptacle load in the adjacent area. On each floor, the 480/277V panelboard will provide power for local HVAC units and lighting loads.

Washington State Energy Code requires metering of individual energy sources and end-use metering of process loads, including HVAC and water heating. Power metering may also be performed at either a panel level or branch circuit level, depending on owner preference to meet LEED energy goals. The goal of such granular metering will be to understand user- or space-specific power usage in order to isolate and reduce any “vampire” loads.

Emergency Power

Emergency, Legally Required Standby, and Optional Standby power will be provided by a 275kVA diesel engine-generator set for each building. Separate transfer switches will be provided for emergency, legally required, and optional standby loads. Onsite fuel storage and fuel delivery system with fuel polisher will provide for 96-hour power source operation. Emergency loads will be those designated as life safety meeting the criteria of NEC 700. Legally Required Standby loads will be designated as required by NEC 701, and may include elevators, stairwell pressurization, and other selected loads. Optional Standby loads will include IT loads (MDF, IDFs, and provider MPOE), cooling for IT loads, security equipment, and other loads as directed by the owner.

The generator backed up emergency distribution switchboard shall be provided with an additional back feed breaker with camlock connections, and a temporary generator connection cabinet for connection of a temporary emergency power source per NEC 700.3(F).

Branch Circuit Wiring

Branch circuit wiring will be copper conductors in EMT raceway. Branch circuit neutrals will be oversized on shared circuits with high harmonic loads. Ground fault circuit interrupter receptacles will be provided in toilet rooms, at sinks, roof, outdoor and wet locations.

Equipment Connections

Electrical power connections will be made to all mechanical and plumbing equipment, to include providing all electrically associated devices such as disconnect switches, contactors, magnetic or manual starters, lock-out switches, etc., not furnished under Division 23. VFD's will be furnished under Division 23 and installed under Division 26.

Electrical power connections will be made to support miscellaneous equipment. Connections include disconnect safety switches and wiring to support interlocks to remote devices.

Renewable Power System

The project has a goal to achieve net zero energy. In order to achieve this on-site power generation is needed with photovoltaic (PV) panels. Most scenarios will require off site solar PV arrays in addition to rooftop PV. Refer to Section 1.3 above for details in regards to sustainability goals and the related PV capacity.

The current medium voltage campus loop only has 160 kW of remaining PV capacity that the utility (PSE) will allow to be fed back onto the loop without requiring protective relays and utility approval. The PV options are listed below which include SEL relays to curtail excess PV production and prevent backfeed beyond the allowable utility limit.

PV Base Bid: No PV installed on the building, infrastructure and pathways only for future rooftop arrays on Newhouse and Pritchard PV arrays.

PV Add Alt 1: Rooftop arrays on both buildings Alternate accepted

— Pritchard array: 80 kW rooftop PV array.
— Newhouse array: 80 kW rooftop PV array

Note if the campus generation capacity is reached (currently 160 kw remaining capacity) before construction starts or future capacity generation on campus is desired. SEL relays or equivalent infrastructure will be required to limit or control the amount of PV generation being fed back onto the grid.

Electric Vehicle Charging

Electric vehicle (EV) charging stations will be provided near the first row of parking of the new Newhouse and Pritchard buildings. Sixteen total EV charging stations shall be provided, and infrastructure only shall be installed to provide flexibility for sixteen additional EV charging stations in the future. Distribution and infrastructure shall be split equally, (8 installed, 8 infrastructure only) from Pritchard, and (8 installed, 8 infrastructure only) from Newhouse. Installed EV charging stations shall be level 2 chargers with data connections. The infrastructure for future EV charging stations shall be adequately sized to accommodate the future installation of either level 2 chargers or DC quick chargers.

Power Quality

Quality of power supply is affected by noise sources within a facility as well as outside (utility transferred). The power distribution systems are not currently programmed to include centralized power conditioning regulation to address utility voltage sags, dips, and surges. Rather, local power conditioning equipment (e.g. UPS) will be provided where requested by the owner for protection of sensitive equipment.

Grounding

Two grounding criteria will be addressed: safety and performance. A safe grounded power system will be provided in compliance with the National Electrical Code. This ground system consists of the building service ground (multiple ground rods, ufer ground, and bonding to the water service and structural steel) and ground bus bars placed throughout building electrical rooms. The safe grounding system will be extended throughout all electrical systems in the facilities. All metallic systems will be grounded to the building grounding system.

Performance grounding includes a system of grounding conductors and busses to be used for IDF/MDF rooms and Data Center (if applicable). Separate isolated ground conductors will be provided for branch circuits with sensitive loads. The performance ground system will tie into the code-required safety grounding system at the main distribution panel ground bus in each building.

Surge Protection

Surge Protective Devices (SPDs) will be provided at the service entrances and at Emergency panelboards per the National Electrical Code.

4.2 Lighting

The lighting design for the project will lend form and beauty to the architecture with careful integration of lighting elements in the space. With an integrative design, the approach focuses on a high standard on sustainability, human comfort, controllability, safety, security, adaptability, and flexibility. Supporting the variety of users and functions such as amenities and offices, the design will give a smooth and coherent transition of light from day into the evenings and enable the occupants to experience the aesthetics of the architectural space. The space will include lighting controls to reduce energy usage and interface with daylight whenever possible with a strong focus to achieve the sustainability goals of USGBC's LEED v4 Silver rating.

BACK OF HOUSE LIGHTING DESIGN CRITERIA

Table 3: Lighting Design Criteria

Area	Source	Light Level Ambient (avg FC)	Light Level Emergency (avg FC*)
Offices/Open Office Area	LED	30-40	1.0
BOH Circulation/Transition	LED	15 – 25	1.0
Surface Parking	LED	5 – 10	0
Loading Dock	LED	10 – 20	1.0
Restrooms	LED	30 – 40	1.0
Storage	LED	15 – 25	NA
Mech/Elec Areas	LED	35 – 45	1.0

(* Emergency Lighting: Emergency lighting system and panel capacity will be designed based on 0.25 VA/SF of gross space)

LIGHT SOURCES

The luminaires will employ LED light sources in all project areas, including back of house spaces. Incandescent, fluorescent, and metal halide sources will not be used on this project unless specifically required by a program requirement. All LED lighting used on this project will conform to all applicable codes and standards, including energy codes and performance standards.

All light sources used will feature a minimum color-rendering index of 80 CRI. Color temperature (CCT) will be standardized to 3000K or 3500K nominal, pending selection of interior finishes and review with the design team.

Where possible, LED chip suppliers will be standardized to ensure that a minimal number of manufacturers are used on the project. LEDs manufactured by Philips, Osram Sylvania, General Electric, Xicato, Bridgelux, Nichia, Cree, are considered acceptable.

LEDs will have minimum CRI of 80 and will maintain color consistency within three MacAdam Ellipses over the rated life of the lamp. LED luminaires will conform to IES LM-80-08 and LM-79-08 test procedures for chromaticity, lumen output and lamp life. All LED luminaires (including LED arrays, drivers, housings, lenses, transformers and accompanying components) will carry a minimum 5-year, non-pro-rated, full replacement warranty.

LIGHTING CONTROLS

All lighting controls will meet the requirements of the 2018 Washington State Energy Code, section C405. A networked, wireless lighting control system is recommended for energy efficiency, ease of use, and low first cost. Control of lighting will be provided by the following methods for the respective tasks/areas:

Table 4: Lighting control Methods by Area

Task/Area	Control Method
Building Exterior	Time Clock & Photocell
Site	Time Clock & Photocell
Corridor	Corridor Occupancy Sensor or Time Clock
Offices	Vacancy Sensor (with manual override)
M/E/IT Spaces	Toggle switch for on/off control only
Restrooms	Occupancy Sensor (with manual override)
Loading Dock	Occupancy Sensor
Surface Parking	Time Clock & Photocell
Building Interior – Perimeter	Photo Cell – Daylight Dimming

4.3 Signal Systems

FIRE ALARM

The Fire Alarm system for each building will consist of a supervised addressable hard-wired system. It is recommended the riser be Class A, with device/horizontal circuits as Class B. The main fire alarm panel and equipment will be located at the main electrical room of each building. The Fire Alarm system will not include or be part of a mass notification system within the predesign costs and can be discussed in design phase.

Table 5: Fire Alarm Device Coverage

Device	Coverage
Manual pull stations	One pull station, located adjacent to the main fire alarm panel at the FCC
Smoke Detectors	Air handlers (>2,000CFM), Elevators lobbies, Elevator machine rooms, Elevator hoistways, fire smoke dampers.
Fire Sprinkler	Tamper and Flow
Annunciation	Remote Annunciation at entry(ies).
Building Annunciation	Speaker and Strobe annunciation throughout the facility.
System output	Relay interface for mechanical system shut down and elevator recall.
Monitoring	Central Station Monitoring

4.4 Temporary Electrical Utilities

During construction of the new facilities for Pritchard and Newhouse, the occupants will be relocated to temporary buildings located west of the Temple of Justice. The electrical connection for each temporary building is estimated to be 600A. Temporary power source to be coordinated with the utility.

5.0 Technology

5.1 Structured Cabling

TECHNOLOGY SYSTEMS

The following outlines the technology systems for the new Newhouse and Pritchard buildings. Based on the architectural options and footprints, the buildings will have similar technology infrastructure, any deviations will be noted below, but it should be generally assumed that the buildings will have similar infrastructure.

DESIGN CRITERIA

Technology systems provide flexible flow of information, dynamic content exchange, efficient end user communications, and maximizes building managers' oversight and support of building usage.

TELECOMMUNICATIONS SPACES

Because the new building will require communications services throughout, several telecom rooms will be programmed for construction throughout the project. As outlined by communications industry best practices, one telecom room will be provided for every 10,000 SF of usable floor area.

Spaces will be established in the following locations:

— One Main Telecom Room on ground level of Newhouse and basement of Pritchard, which will also act as the building's Telecommunications Entrance Facility for Service Providers.
— Additional Telecom Rooms: a minimum of one on each level
— Total quantity of Telecom Rooms will be provided to ensure all areas of the buildings are within 295 cabling feet or less from a Telecom Room due to distance limitations of Category cabling.
— Wherever practical, Telecom Rooms on different levels will stack/align vertically.

Exact size and location of Telecom Rooms will be coordinate with the Architect, meeting industry and/or owner standards.

EQUIPMENT

— Telecom Rooms will be fitted with fire-rated plywood backboards on three walls.
— Third party (wireless carriers, access providers, etc.) equipment will also be installed in the Main Telecom Room.
— Wire management rings will be utilized to route cabling from different pieces of wall mount equipment.
— 110-style wall-mounted wiring blocks will be provided for cross-connecting copper cabling.
— 2-post racks, floor enclosures, and wall-mount telecom enclosures will be provided where required for the installation of copper patch panels and fiber optic distribution units. Racks/enclosures will have standard 19 inch compliant mounting rails, with vertical and horizontal cable management systems.

- Where telecom racks and enclosures are provided, cable runways will be provided above and around the walls of the Telecom Room to route cabling to/from racks.
- Secured enclosures, will be provided where required for the installation of security equipment.

OUTSIDE PLANT

Service to the building will be provided via new underground pathways from existing infrastructure located at the nearby right-of-way. Third party access providers as well as owner provided systems will be brought to the building using this underground pathway. A total of three 4 inch conduits will be provided.

PATHWAYS

To provide a flexible and scalable communications system, the design of the pathways which transport, protect and support the cables must be designed with easy access and growth in mind. Telecom pathways will be designed and constructed in accordance with the most current ANSI/TIA standard, including minimum bend radii on telecom conduits.

Dedicated conduit for structured cabling backbone cabling and distributed antenna system (DAS) cabling will be provided from the Main Telecom Room to each Telecom Room. For stacked Telecom Rooms, fire-rated sleeves will be provided in the slab between rooms in lieu of conduits. A 2 inch conduit will be provided from a Telecom Room on the top level to a weather head on the roof for a DAS antenna and to support future services (SMATV, P-to-P Microwave, etc.).

In areas with no accessible ceiling and when cabling is routed below-grade, conduits and duct banks will be used for cable distribution. Conduits will be sized for 40 percent fill, with cable trays sized for 25 percent fill. In areas with greater accessibility and those which may need frequent cable changes the preferred method of cabling support will be wire-mesh cable tray.

Where accessible ceilings are available, J-hooks will be provided for supporting and routing smaller amounts of cables (under 50 total quantity) from the cable tray or Telecom Room to the work area outlets. Fire-rated sleeves will be provided through any fire-rated walls where cabling needs to be routed.

BACKBONE CABLING – MAIN TELECOM ROOM TO TELECOM ROOMS

Fiber optic and balanced twisted pair backbone cabling will be provided between the main telecom rooms to telecom rooms/enclosures. Fiber optic distribution units and 110 punch down blocks will be provided for cross connecting services between rooms.

HORIZONTAL CABLING

Horizontal cabling will be provided from patch panels in Telecom Rooms, to work are outlets and other devices throughout the building. Cabling will be installed, terminated, labeled, tested and administered by the contractor. The cabling plant will consist of the following cable types:

- Horizontal Data/Voice – Category 6
- Horizontal Data (for WAPs) – Category 6A
- Horizontal CATV – Radio Grade Series 6 Quad Shield Coaxial (RG-6/UQ)
- A minimum number of two cables will be extended to each telecom outlet location.

Wireless access points (WAPs) and other active equipment will be owner furnished, owner installed. Approximate spacing between adjacent WAPs will be in a grid pattern approximately 25-35 feet, unless alternate locations are dictated by the owner.

Where PoE (Power over Ethernet) endpoint devices require power exceeding 60W, CAT6A cabling will be provided at a minimum, with LP rated cables being used where design conditions require large bundles of cables servicing high powered PoE devices.

GROUNDING AND BONDING

A telecom grounding and bonding system will be provided for all telecom rooms and spaces throughout the building.

This system is separate from the electrical grounding system in that an electrical grounding system is required for safety, but telecom grounding and bonding systems are required to protect active equipment in the system from disruptions due to either outside interference or unbalanced voltage potentials to ground. They are integral in that telecom system must be bonded to the electrical system so that they may function as a single cabling system.

A Primary Bonding Busbar (PBB, formerly TMGB) will be provided in the Main Telecom Room. The PBB will be connected (bonded) to the electrical system's main panel board's (sometimes referred to as the main switch board, or main distribution board) ground via the Telecommunications Bonding Conductor (TBC).

Secondary Bonding Busbars (SBB) will be provided in every Telecom Room to provide a bonding point for all equipment in that room.

Racks, cable trays, conduits, and other telecom system equipment will be bonded to the PBB/SBB.

5.2 Code Required Two-Way Communications Systems

EMERGENCY RESPONDER RADIO COVERAGE (ERRC) DISTRIBUTED ANTENNA SYSTEM (DAS)

A code-compliant Emergency Responder Radio Coverage Distributed Antenna System will be provided. A dedicated system will include a Remote Units within the building to receive/transmit signals from an existing Master Control Unit (MCS) located in the Plaza Garage. The MCS will then provide fiber-optic cabling to remote units in an IDF on each level. Remote units are transceivers that convert the signal to coaxial cabling. The coaxial cabling is attached to amplifiers to extend signal out to small passive antennas distributed throughout the building. The system will support the current radio frequencies of all Emergency Responder entities that may respond to the building.

Predictive modeling of RF propagation will be provided by the system installer (contractor) to verify code-requirements are met. After installation the system installer (contractor) will be responsible to test the building per NFPA 72 to ensure the above coverage requirements have been met.

AREA OF REFUGE/ELEVATOR LOBBY TWO-WAY COMMUNICATIONS SYSTEMS

For code-required Areas of Refuge, a Two-Way Communication System will be provided as a means of communicating with emergency responders in the event of an alarm condition and/or fire. The system will consist of a call station in each Area of Refuge (and associated signage) and a Control Station near the main entry/vestibule.

5.3 In-Building Carrier DAS

Wireless service provider (carriers) systems and frequencies will be distributed throughout the building with a host-neutral distributed antenna system (DAS). The system will be an expansion of the owner's existing system.

Pathways and rough-in will be provided, with design of the carrier-neutral DAS system (including cabling types, transceivers, and antennas) coordinated with the carriers and design-build partners.

Space will be allocated in the existing DAS head-end room within the Plaza Garage to allow for additional carrier frequency modules to be installed in the DAS head-end. These modules connect to carrier provided back-haul equipment which brings the carrier's signal into the building. Space must also be allocated for carrier-provided back-haul equipment. This is typically two full sized enclosures per carrier.

From the DAS head-end a combination of transceivers, amplifiers, cabling and antennas will be provided to redistribute the carrier signals throughout the building.

It is critical that tight carrier coordination occur early on, and that these coordination/negotiations should be led by the building owner in conjunction with the design-build partners.

Carriers must be assured that the capacity of the building occupants warrants the cost of providing back-haul equipment. It is also critical that carriers can be guaranteed that the coverage in the building will provide a high quality of service (and as outlined above, does not impact quality of service outside of the building). For carriers, quality of service is paramount.

5.4 Clock System

A hard-wired clock system is not programmed for the buildings. PAE recommends using radio connected or WiFi analog clocks permitting time setting and ease of relocation.

5.5 Temporary Technology Utilities

During construction of the new facilities for Pritchard and Newhouse, the occupants will be relocated to temporary buildings located west of the Temple of Justice. The Technology connection for each temporary building is estimated to include fiber optic and balanced twisted pair backbone cabling. Temporary communications to be coordinated with the utility and owner.

6.0 Electronic Security Systems

Electronic Security systems provided in this project will be an integrated system of video surveillance, intrusion detection and electronic access control system, and will be an expansion of the owner's existing systems.

6.1 Video Surveillance

The system is IP-based and utilizes the Owner's Power-over-Ethernet switches and Local Area Network to route signals to an existing Genetec video management system and network video recorder/server located in main telecom room. The General Contractor is to provide a Genetec Streamvault appropriately sized to meet archival requirements set by DES. Archival requirements are full camera resolution, 30 frames-per-second, 24-hour recording, and 30 day retention.

CAMERAS

All cameras will be Pelco IP-based cameras, allowing them to be used with the owner's existing Video Management System (VMS) software platform. Cameras will include Pelco 12 MP Optera for 180, 270, and 360 degree cameras will also include Pelco 8MP Sarix IR mini dome cameras.

COVERAGE

Surveillance Cameras will be placed where necessary to provide the best safety coverage for the building occupants.

Typical locations include:

- Exterior entry points
- Reception doors to separate public and staff areas
- Building systems rooms (Mechanical Rooms/MDF/IDF/Electrical Rooms/Generator Rooms/Fire Control Rooms)
- Parking lots (Vehicle Circulation / Pedestrian Access)

INTEGRATION

Camera, cabling, licenses, network video recorders (with additional storage servers), graphical mapping of camera locations, integration with access control system, and integration with the existing system will be included in the project under the General Contractor's scope. The General Contractor will coordinate with DES Capitol, House and Senate Security & Visitor Services as DES will perform all system configurations.

6.2 Intrusion Detection

An Intrusion Detection system will be deployed to provide the ability to monitor the building.

DEVICES AND COVERAGE

Detection devices will be placed throughout the facility. These device locations and types include, but are not limited to:

- DMP Sentrol 5820A Shatter Pro Glass break sensors in all rooms with exterior wall glazing/windows
- DMP CDX-DAM Dual Tech Motion sensors in exterior doors/lobby areas/in-building loading docks and garages.
- Crestron Duress Alarm/Panic Buttons mounted to underside of desks at all public reception areas and interaction counters, exterior door locations, and exterior window locations on ground floor.
- Access control door position switches to be integrated into intrusion detection system and report alarm on forced entry or door prop.

INTEGRATION

Cabling, devices, panels, integration (including graphical mapping of device locations), and new credentials (cards/fobs) will be included in the project as part of the Contractor’s scope. The Intrusion Detection system will be integrated into the owner’s existing Genetec system.

6.3 Access Control

Electronic Access Control system will be provided based on owner’s existing Genetec system to control access to the building during off-hours, or between back-of-house and secured spaces where the public or non-credentialed personnel are not allowed.

DEVICES

A variety of devices are required for an effective electronic access control system. These include, but are not limited to:

- HID Multiclass RP40 credential readers
- Schlage 679 door position switches
- Bosch DS150i Request to exit sensors
- Request to exit manual push buttons
- Electronic locks (specified by Division 08, Doors and Windows)
- Electronic strikes (specified by Division 08, Doors and Windows)
- Electromagnetic locks (specified by Division 08, Doors and Windows)
- Panic hardware (specified by Division 08, Doors and Windows)
- Power transfer hinges (specified by Division 08, Doors and Windows)
- Automatic door operators and buttons (specified by Division 08, Doors and Windows)

Credential readers will be provided at appropriate and coordinated locations and will be multi-technology readers capable of 125kHz and 13.56MHz frequencies.

Each access-controlled door will include a door contact, which reports the position (propped open, forced, closed etc.) of the door back to the Access Control management system.

Request-to-exit sensors and buttons (or integral to panic hardware) will report an approved opening of the controlled door. These devices are typically located on the secure side of the door to allow free egress to the non-secure side of the door.

Automatic door operators will integrate with the system so that the door motor will not activate without an approved opening credential.

Other components of designated doors work in conjunction with the access control systems and are included as part of the Division 08 Door Hardware groups.

COVERAGE

Access control devices will be placed where necessary to provide the best safety coverage for the building occupants.

Typical locations include:

— Exterior entry points
— Reception doors to separate public and staff areas
— Roof access points
— Critical systems rooms (Mechanical Rooms/MDF/IDF/Electrical Rooms/Generator Rooms/Fire Control Rooms/Roof Access)
— Interior Offices
— Common Conference Rooms
— Conference Rooms with Audio Visual Equipment
— Common Breakout Spaces
— Common Break Rooms
— Parking lot entrances
— Elevators

INTEGRATION

Cabling, devices, panels, integration (including graphical mapping of device locations), and new credentials (cards/fobs) will be included in the project as part of the Contractor's scope. Access control system shall have ability to control elevator movement.

6.4 Intercom Entry System

A 2N IP Verso video intercom entry system will be located at entry door(s) and reception doors to allow two-way communication with security office and other designated locations in the building. The system will be IP-based and utilize the Owner's Power-over-Ethernet switches and Local Area Network. The device at the door/gate will call the 2N Indoor Touch 2.0 master station(s) inside the building. The system will also be integrated with the local door/gate access control hardware and system, such that a button on the master station can temporarily unlock the associated door/gate/elevator and grant access to an individual floor.

6.5 Building Management System (BMS) Integration

The Electronic Security System will allow for integration into the BMS system. Integration to provide control of window operators notifying window state and providing ability to override BMS function.

7.0 O’Brien Tenant Improvement

7.1 Mechanical

DISTRIBUTION BY SPACE TYPE

Meeting Rooms – Each meeting room is provided with a variable air volume (VAV) terminal with C02 control. The VAV terminal boxes include hydronic reheat coils to maintain the space temperature setpoint. There is no supplemental heating/cooling outside of the terminal unit. The existing Terminal units are to remain. Diffusers and branch ductwork are to be demolished and adjusted as needed to adhere to the new floor plan. New diffusers will be provided for all spaces.

Offices - Each perimeter office is provided with a dedicated variable air volume (VAV) terminal unit, which is controlled to maintain the space temperature. The VAV terminal boxes include hydronic reheat coils to maintain the space temperature setpoint. Interior offices are served by the same VAV system except some VAV boxes serve up to two internal offices. The existing Terminal units are to remain. Diffusers and branch ductwork are to be demolished and adjusted as needed to adhere to the new floor plan. New diffusers will be provided for all spaces.

Toilet rooms, Janitor’s closets, and other areas requiring 100% exhaust – These spaces are provided with constant volume exhaust air dampers. The system will be balanced to maintain a slight negative pressure in these spaces relative to the rest of the building for odor control. Based on proposed alternations, there are no anticipated adjustments needed for these spaces.

HEAT GENERATION

The primary heat generation for O’Brien is through the central plant steam system and local shell and tube heat exchangers. The existing heating system consists of steam piping, steam heat exchangers, steam PRV, condensate piping, and condensate pumps. Based on proposed alterations, there are no anticipated adjustments needed for the central plant. Heating water piping may be needed to be demolished and replaced with new pending if the existing VAV’s with reheat are to be relocated.

BUILDING COOLING

The primary source of cooling for O’Brien is through the central plant’s cooling water system. Existing chilled water pumps distribute cooling water to AHU’s on the roof and various other pieces of equipment. Existing split systems serve spaces that require 24/7 cooling such as electrical, IDF, and MDF rooms. The existing Terminal units are to remain. Based on proposed alterations, there are no anticipated adjustments needed for the central plant.

HVAC INSTRUMENTATION AND CONTROLS

The existing direct digital control (DDC) system (JCI Metasys) will be used for the mechanical systems in this building. The system will be based on the architecture and capabilities associated with the allowed control systems on the Capitol Campus. The system will utilize electric actuators throughout, thus eliminating the need for a control air compressor and distribution system. Standard control algorithms will be used to a large extent but will be supplemented with custom programming. Advanced control strategies are anticipated including unoccupied during occupied hours set-back, CO2 monitoring and ventilation air reset, supply water temperature reset, variable flow reset, etc. The system will connect to occupancy sensors, where provided for lighting control, for use in determining occupancy-based system resets.

Revisions to the floor layouts will require demolition and replacement of temperature sensors.

TESTING, ADJUSTING AND BALANCING

Full dry-side and wet-side testing, adjusting, and balancing will be provided for this project in accordance with NEBB Standards and Procedures.

OTHER SPECIAL HVAC SYSTEMS AND EQUIPMENT

Seismic bracing and anchorage will be required for the mechanical systems (equipment, piping, ductwork) in compliance with current Code (non-critical facility designation).

7.2 Electrical

The partial alteration of the third and fourth floors of the O'Brien building will include ~17,940 square feet of renovation to right-size member and staff assistant offices. The cores and caucus offices will remain untouched.

BRANCH CIRCUIT WIRING/WIRING DEVICES

Within the member offices and legislative assistant work areas affected by the tenant improvement, all receptacles shall be demolished back to their source. New branch circuits and wiring devices shall be provided within the reconfigured office spaces.

LIGHTING/LIGHTING CONTROLS

Within the area of work, all lighting and lighting control devices shall be demolished back to their source. New LED luminaires and lighting control devices shall be provided within the reconfigured office spaces and circulation spaces.

7.3 Technology

The partial alteration of the third and fourth floors of the O'Brien building will include ~17,940 square feet of renovation to right size member and staff assistant offices. The cores and caucus offices will remain untouched.

TECHNOLOGY SYSTEMS

Within the member offices and legislative assistant work areas affected by the tenant improvement, all data outlets, communication devices, and cabling shall be demolished back to their serving IDF Room. New cabling, devices, and outlets shall be provided within the reconfigured office spaces. All backbone cabling will remain untouched. All equipment within IDF Rooms will remain untouched.

7.4 Electronic Security Systems

The partial alteration of the third and fourth floors of the O’Brien building will include ~17,940 square feet of renovation to right size member and staff assistant offices. The cores and caucus offices will remain untouched.

ELECTRONIC SECURITY SYSTEMS

Within the member offices and legislative assistant work areas affected by the tenant improvement, all security devices and cabling shall be demolished back to their serving security panel or IDF Room. New cabling and outlets shall be provided within the reconfigured office spaces.

HINMAN

LEGISLATIVE CAMPUS MODERNIZATION

OLYMPIA, WASHINGTON

NEWHOUSE & PRITCHARD BUIDLING REPLACEMENT

PROGROM OF PHYSICAL SECURITY REQUIREMENTS

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RECORD OF REVISIONS

REV	DATE	DESCRIPTION
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1	08-20-2020	Revised for Comments 08-14-2020
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1 - INTRODUCTION

The Newhouse and Pritchard Buildings at the State of Washington Legislative Campus is beyond its economical life. A phased Pre-Design Study is currently underway and being led by Mithun to explore program needs as well as construction options to renovate the existing buildings or alternatively construct a new facility onsite. The objective of the active study is to provide the legislature with the information required to establish the final scope and budget for the future construction project.

Shocks and stresses attributed to security threats and affecting life-safety or business continuity objectives are a key concern for facilities of this scale and population. Hinman Consulting Engineering (Hinman) was enlisted to support development of a high-level program of security requirements for the Newhouse Replacement project as part of broader criteria development efforts to inform forthcoming design and construction stages.

The body of the report that follows provides an overview of the technical approach and a summary of key results. The presented baseline for development of specific security solutions pursues risk reduction where needed using one or a combination of the following schemes:

- **Program Modifications** – space layout solutions to separate critical functional and physical assets from high-risk spaces, as well as design solutions that enhance the overall redundancy of critical building systems/infrastructure that support emergency response and operational continuity post-threat event.
- **Operational Security** – solutions that integrate zones of access control to alter the vulnerability of high-risk spaces for credible threat events.
- **Global Enhancements** – implementation of system redundancy and other solutions that are independent of threat intensity to enhance the ability to absorb localized damage without precipitating broader building "failure".
- **Local Hardening** – integrate robust construction of structural and non-structural building components on an element-by-element basis to mitigate excessive damage for specific threat scenarios.

These strategies are applied at site and building levels to cultivate an overall program consisting of layered protection. The underlying process looks to first leverage the protective attributes that are inherent to the un-enhanced site and building and, subsequently, develop incremental improvements that best address risk tolerance and balance threat mitigation with other project goals. This provides the context to identify critical physical and function loss scenarios around which unobtrusive and cost-effective strategies that boost the facility's overall resilience within an everchanging threat environment can be developed.

2 - GLOSSARY OF ACRONYMS

TERM	DEFINITION
ACI	American Concrete Institute
AHJ	Authority Having Jurisdiction
AHU	Air Handling Unit
ASCE	American Society of Civil Engineers
CCTV	Closed Circuit Television
CMU	Concrete Masonry Unit
CPTED	Crime Prevention Through Environmental Design
CSVS	Capitol Security & Visitor Services
DBT	Design Basis Threat
DES	Department of Enterprise Services
FSL	Facility Security Level
HVAC	Heating, Ventilation and Air Conditioning
IBC	International Building Code
IDS	Intrusion Detection System
IES	Illuminating Engineering Society
ISC	Interagency Security Committee
LCM	Legislative Campus Modernization
LOP	Level of Protection
MERV	Minimum Efficiency Reporting Value
OSB	Oriented Strand Board
PA	Public Address
RMP	Risk Management Process
SIP	Shelter In Place
SMRF	Special Moment-Resisting Frame
UPS	Uninterrupted Power Supply
VSS	Video Surveillance System
WSP	Washington State Patrol

3 - RISK ASSESSMENT METHODOLOGY

Consistent with feedback received from security and project stakeholders, level of risk was determined consistent with guidance provided in the following Interagency Security Committee (ISC) standards:

- "The Risk Management Process (RMP) for Federal Facilities" (2016)
- "RMP Appendix A: The Design-Basis Threat (U)" (2019)
- "RMP Appendix B: Countermeasures" (2019)

These documents frame assessment of risk and definition of baseline threat mitigation objectives for owned or leased facilities with federal government tenants. Although state governments are not required to adhere to this physical security standard, the overarching risk management framework can readily be extended to non-federal government buildings within a campus or other urban setting.

This Interagency Security Committee (ISC) document provides a process to assign a facility-specific risk designation and identify associated baseline protection requirements. Appendices and supplemental interpretation documents provide detailed guidance to investigate critical vulnerabilities and develop security countermeasures to mitigate anticipated threats.

The determination of baseline risk and assignment of "Facility Security Level" designation considers the following equally weighted facility factors: Mission Criticality, Symbolism, Facility Population/Occupancy, Facility Size, and Threat to Tenant Agency (limited available historical data).

- **Mission Criticality** – quantifies the value of the facility to the State Government. The point score given to a facility is dependent on the criticality of the missions carried out by Federal Agency tenants based on a range from 'very high' value to 'low' value to the State Government. For example, facilities that house government officials or currency that is critical to economic stability are of very high value to the State Government, while local level administrative facilities are considered to be of low value.
- **Symbolism** - accounts for the attractiveness of the facility as a target and the consequences of a compromising event. The point score for this factor is determined by assessing the external appearances of a facility or the recognizability of the internal operations of a facility that indicate it as associated with the State Government. The symbolic consequences of an undesirable event are based on negative psychological effects of a prominent State facility being compromised. An attack on symbolic facilities could result in a loss of confidence in the State Government domestically or internationally.
- **Facility Population** – addresses the appeal of targeting large populations. Many aggressors have acknowledged infliction of mass casualties as a goal of their attack. The opportunity for mass casualties resulting from an undesirable event is, therefore, and important factor when considering facility protection levels. The facility population factor is based on the peak total number of personnel in the facility; this includes employees, onsite contract employees, and visitors. The peak total population should not include transient shifts in population (i.e. the occasional conference) as these atypical events should be addressed by contingency security measures.
- **Facility Size** - is based on the square footage of the facility. This factor is not dependent on the facility population, though they are usually proportional. For an aggressor, attacks on larger, more recognizable facilities result in more substantial media coverage. The consequence of an undesirable event on a larger facility is higher repair or replacement costs of the facility.

- **Threat to Tenant Agency** – considers the – (1) nature of the tenant's interactions with the public, (2) nature of the tenant's mission at the facility, (3) history of credible threats to the tenant at the facility or any of the other tenants in a shared facility, and (4) crime statistics for the region around the facility. The latter parameter (crime statistics) scales reporting based on the local population, with areas of lesser population evaluating crime statistics across a broader local area.

In addition to these factors, "Intangible Factors" may be considered based on stakeholder input to account for project-specific conditions. This ultimately provides a risk-based context to develop and implement threat-specific (prescriptive and/or performance-based) countermeasures. These intangible factors are not to be used for the purpose of simply reducing the baseline and necessary security criteria (determined from the preliminary FSL), but rather to customize the necessary security criteria to address facility specific concerns. Risk acceptance may be necessary if a facility cannot meet the baseline level of protection.

Working within this construct, physical and functional factors affecting the target attractiveness and "value" of each facility can be identified. The latter parameter ("value") speaks to the perceived consequence of physical/function damage to the asset/facility. The former (target attractiveness) informs the class of aggressor expected to mount an attack and preferred modality to cultivate a register of credible threat scenarios. Where the attacker or modality are more sophisticated, so too are the mitigation strategies. The results of this effort enabled assignment of facility-specific risk designations, ranging from 1 (very low) to 5 (very high). This, subsequently, informed the determination of a baseline protection level and identification of paired minimum physical security measures to mitigate specific threat scenarios.

4 - BASELINE LEVEL OF RISK

Washington State Capitol Security & Visitor Services (CSVS) representatives coordinated at the direction of the Legislature, a campus-level vulnerability assessment, which was completed by an independent firm. Utilizing the DHS ISC risk management process, the vulnerability assessment determined the existing facility as a Level 3. With the vulnerability assessment completed, CSVS has operationalized the risk management process and determined lower and upper bound risk designations of Level 3 and Level 4, respectively, based on the intangible adjustments given proximity to the Legislative Building, elected officials and operations of the Legislature.

Table 1 summarizes the results of a parallel risk determination that was completed by Hinman using the ISC framework and available information for the Newhouse and Pritchard Buildings. It is, ultimately, recommended that the LCM project considers a Level 3 risk designation for both the Newhouse and Pritchard Buildings. This recommendation is consistent with feedback received during security workshops (06/16/2020 and 07/09/2020). This baseline accounts for the value of physical and functional program associated with office buildings that house elected government officials but considers these buildings to be of secondary importance relative to the Capitol Building.

Table 1 – Summary of Facility Risk Determination

Facility Factor	Lower Bound	Upper Bound
Mission Criticality	Medium (2)	High (3)
Symbolism	Medium (2)	High (3)
Facility Population	Low (1)	Medium (2)
Facility Size	Medium (2)	Medium (2)
Threat to Tenant Agencies	Medium (2)	High (3)
Preliminary Facility Risk Level (risk score)	Level 2 (9)	Level 3 (13)
Intangible Adjustment [1]	-	-
Final Facility Risk Level	**Level 2**	**Level 3**
Baseline Level of Protection	**Low**	**Medium**

1 - After evaluating intangible factors, the Risk Level may be raised or lowered one level at the discretion of the deciding authority. The intangible factors and the decision to raise or lower the Risk Level should be properly documented.

5 - BASELINE LEVEL OF PROTECTION

Building from the level of risk determination, the ISC framework defines a process through which implementation of specific threat countermeasures are progressed. An initial stage consists of identifying threat-specific risks and confirming that the baseline Level of Protection (LOP) sufficiently mitigates those risks. Figure 1 provides an illustrative example wherein the risks for certain threat tactics fall above or below the baseline protection threshold. Where threat-specific risk does not align with the baseline LOP, customized protection objectives may be required to appropriately capture unmitigated or unnecessarily mitigated risk. For the purposes of this assessment, threat-specific risk is assumed to be fully addressed by and perfectly aligned with the baseline LOP.

A secondary decision point in the evaluation process evaluates if the LOP achieved by the existing facility (or new facility without integrated protection elements) is sufficient (see Figure 2). Where the existing (or unenhanced) condition is determined to provide insufficient reconciliation of identified physical/functional vulnerabilities, further evaluations are needed to understand the extent to which established protection objectives are achievable and the appropriate course of decision-making if achievement of protection objectives is not feasible.

Consistent with the Level 3 risk designation, a baseline "Medium" level of protection objective is defined for both the Newhouse and Pritchard Buildings. Appendix A further details specific threat countermeasures consistent with this baseline and feedback received from Washing State security stakeholders (Department of Enterprise Services, House and Senate Security, and Washington State Patrol) as well as data in the "Capitol Security & Visitor Services – Physical Security Pre-Design Framework and Construction Standards" matrix provided by Washington State Department of Enterprise Services. This latter reference is included as Appendix B.

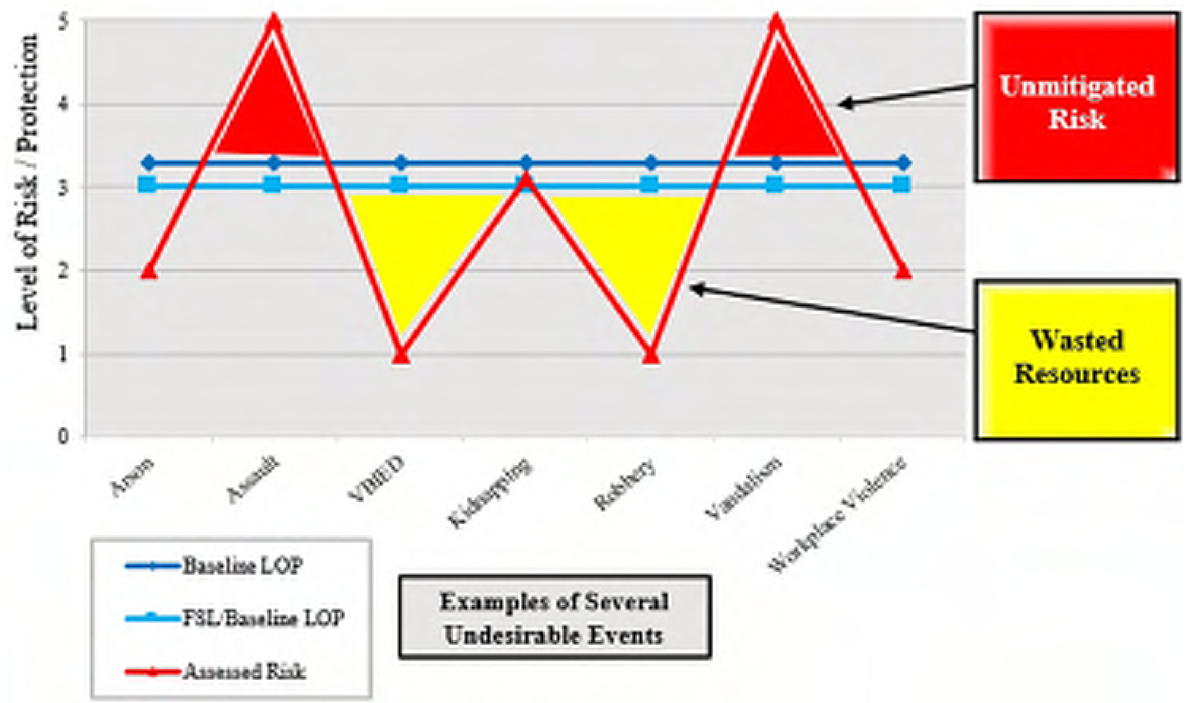

Figure 1 – Example of Threat-Specific Risk vs. Baseline LOP Assessment

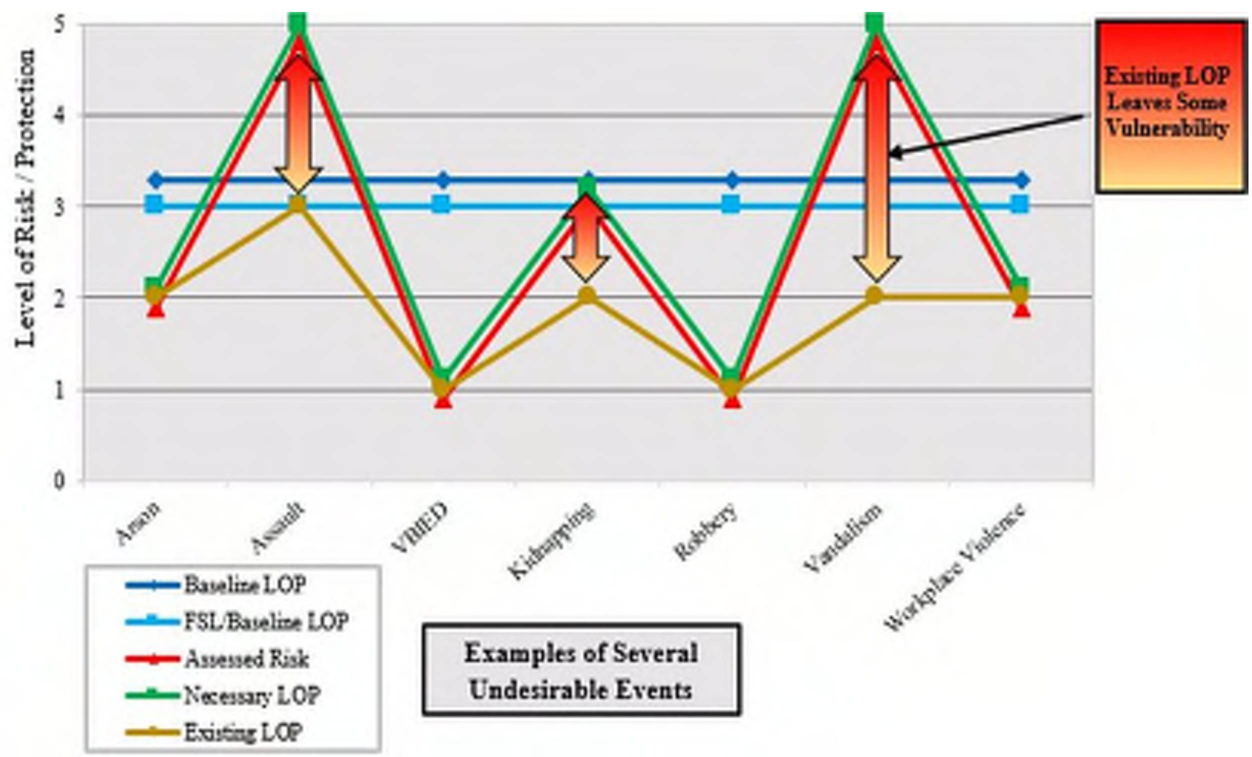

Figure 2 – Example of LOP Achieved by Existing Condition Assessment

6 - CONCLUSION

This document provides a high-level summary of physical security requirements collected as part of workshops that engaged Washington State Department of Enterprise Services (DES), House and Senate Security and Washington State Patrol representatives. The program of requirements closely aligns with Interagency Security Committee physical security standards, which being considered as a baseline to understand security needs and prioritize mitigation measures for other future projects. Collected input was further complemented with industry best practices to provide overarching direction that supports future development and implementation of a comprehensive protective design strategy as part of future design and construction efforts.

APPENDIX A – SUMMARY OF THREAT COUNTERMEASURES

A.1 – SITE SECURITY COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
1.01	Facility Identification	Signage identifying a facility as a government facility should only be posted when necessary to achieve the mission of the tenants, or when the facility is readily identified or well-known as a government facility based on the nature of public contact or other operations.	
1.02	Landscaping	Minimize areas of concealment in and around facilities. Establish a clear zone around barriers, fences, and restrict landscaping from obstructing views of the security force and video surveillance system or interfering with lighting or IDS	Minimize areas of concealment in and around the building. Restrict landscaping from obstructing views of the security force and video surveillance system or from interfering with lighting or Intrusion Detection Systems (IDS). Landscaping may be used as a protective measure to obstruct views from outside the facility or as a physical barrier. A balance must be achieved between its usefulness in protection and its potential negative impact on operational security measures. Apply principles of Crime Prevention Through Environmental Design (CPTED). Avoid planting dense shrubs that are expected to grow to a height exceeding 2-ft above grade. Avoid planting trees that have a canopy lower than 6-ft above grade. Design site landscaping and/or furniture to minimize potential areas of concealment and provide multiple angles of natural visual inspection from building perimeter or interior areas.
1.03	Site Lighting	Install exterior lighting at entrances, exits, parking lots, garages, video surveillance system locations, and walkways from parking areas to entrances.	Install exterior lighting at entrances, exits, parking lots, garages and walkways. Require lighting in accordance with Illuminating Engineering Society (IES) standards and guide for security. Shall be roughly 5-5.5 foot candle rating. Illumination should be utilized or installed in a manner that enhances security. Dependent upon the assets' criticality and security posture, practitioners should determine if special purpose lighting is necessary and whether the resource or avenues of approach should be sufficiently illuminated. All lighting design decisions should also support CPTED goals and enhance environmental design factors (e.g., post-incident investigation, personnel identification, natural surveillance activities, etc.). Lighting should be sufficient to: • Illuminate potential areas of concealment • Enhance the observation of security force patrols and video surveillance system • Provide for the safety of personnel moving between adjacent parking areas, streets, alleyways, and the facility. Lenses and housings should be intact and clear of debris (e.g., insects, oxidation, avian fecal matter). There should be no foliage blocking the light from illuminating the desired area. Exterior lighting is recommended to use industrial strength shatter resistant lenses to deter vandalism.

ID	COUNTERMEASURE	DESCRIPTION	NOTES
1.04	Signage (Sensitive Areas)	Prohibit signs that identify sensitive areas, unless required by other standards/codes.	
1.05	Parking (Limited Authorization)	Limit parking to employee vehicles, authorized visitor vehicles, approved government vehicles, and other authorized parkers.	Surface parking areas are not required to be enclosed by a fenced security perimeter. Utilize landscaping, planters, land forms, and other site elements to delineate a clear and continuous physical boundary the separates restricted surface parking areas from adjacent public spaces. Provide shrubbery, decorative fencing, knee walls, or other features to channel pedestrians to authorized areas or entrances. Avoid integration of screen walls or landscaping elements to define the boundary of restricted parking areas that obstruct visibility for patrolling officers and security.
1.06	Parking (Access Control)	Use vehicle gates to limit access of vehicles to authorized vehicles only.	Provide parking control arms with integrated card reader. Anti-ram barriers are not required to secure restricted surface parking areas. Refer to the CSVS Physical Security Framework for additional detail.
1.07	Parking (Pedestrian Access)	Monitor pedestrian access to parking areas utilizing security force and/or video surveillance system.	
1.08	Parking (Vehicle Circulation)	Integrate clearly defined pedestrian crossings as well as speed bumps or other vehicle calming devices to manage vehicle speed at longer drive lanes to avoid accidental injuries due to movement of vehicles and pedestrians.	
1.09	Vehicle Ramming	Provide vehicle barriers to protect pedestrian entrances from penetration by a moving vehicle.	Evaluate vehicle approach paths that target the main building entrance. Unless otherwise determined by Department of Enterprise Services or Capitol Security, it is recommended to consider moving vehicle threats that are consistent with the ASTM F2656 pick-up truck vehicle type. Where determined to be needed, provided anti-ram barriers that are ASTM F2656 (or similar) test certified. Where protection substantially less than that achieved with proprietary anti-ram barriers is needed, consider addition of non-rated deterrent features or mass barriers to obstruct vehicle encroachment. Explore solutions that introduce medians, landscaping or other solutions to divert vehicle circulation to minimize visitor/public vehicle traffic in proximity to buildings.
1.10	Hazardous Material Storage	Locate HAZMAT storage in a restricted area away from loading docks, entrances, and uncontrolled parking. Monitor storage area using IDS and/or video surveillance system. Control access to areas.	Locate in restricted area with minimum 25-foot standoff distance from facility and monitor through electronic access control and video surveillance.

ID	COUNTERMEASURE	DESCRIPTION	NOTES
1.11	Receptacle and Container Placement	Position trash containers, mailboxes, donation/recycle containers, vending machines, etc., away from building exterior and entry points, or implement blast containment measures to mitigate an explosion.	

A.2 – ENTRANCE SECURITY COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
2.01	Badge Identification	Require agency photo ID that is worn and visible at all times when in government-controlled space.	
2.02	Regulatory Signage	Post necessary regulatory, statutory, and/or site-specific signage.	
2.03	Employee Access Control	Provide a means to secure employee entrance doors and to verify the identity of persons requesting access prior to allowing entry in the facility by physical or electronic means.	
2.04	Visitor Access Control	Require visitors to nonpublic areas be sponsored by a tenant and either approved for unescorted access or escorted at all times. Require visitors to nonpublic areas display a visitor ID badge.	Security protocols are expected to consistent of a two-man security post that wands visitors upon entrance. A formal screening vestibule is not envisioned. Adequate space and infrastructure shall be provided to support future temporary or permanent screening operations that leverage magnetometers at minimum. Engage CSVS in reviewing the entry sequence.
2.05	Occupant Screening	Provide necessary space and infrastructure to support temporary screening operations for all occupants and their property that do not possess an acceptable ID for access to the facility. Establish a list of prohibited items, including potential weapons.	Security protocols are expected to consistent of a two-man security post that wands visitors upon entrance. A formal screening vestibule is not envisioned. Adequate space and infrastructure shall be provided to support future temporary or permanent screening operations that leverage magnetometers at minimum. Engage CSVS in reviewing the entry sequence.
2.06	Visitor Screening	Screen all visitors and their property. Provide necessary space and infrastructure to support temporary screening operations for all visitors and their property. Establish a list of prohibited items, including potential weapons.	Security protocols are expected to consistent of a two-man security post that wands visitors upon entrance. A formal screening vestibule is not envisioned. Adequate space and infrastructure shall be provided to support future temporary or permanent screening operations that leverage magnetometers at minimum. Engage CSVS in reviewing the entry sequence.
2.07	Ballistic Protection (Screening Station)	Provide a ballistic protective barrier in the utilization of guard booths, desks, or podiums where armed security forces and other security personnel are stationed when interacting with unscreened personnel. Provide body armor for security forces at access control points for personal protective measures to enhance survivability and permit response by security forces.	
2.08	Lobby Queuing	Minimize queuing caused by screening, visitor processing, and access control system throughput.	
2.09	Access Control (After Hours)	Require all employees, contractors, and visitors to sign in and sign out electronically, or on a building register after-hours.	
2.10	Building Entry	Limit the number of building entry points to the fewest number practical.	

ID	COUNTERMEASURE	DESCRIPTION	NOTES
2.11	Perimeter Doors & Door Locks	Secure perimeter doors with non-removable hinges and high-security mechanical or electronic locks.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and door hardware. Hard key locking devices should be available at all exterior doors as a redundancy in the event of electronic lock failure or other emergency.
2.12	Employee Convenience Doors	Provide electronic access control for employee entry doors without a security force post (including after-hours access) in conjunction with video surveillance system coverage.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and door hardware.
2.13	Emergency Exit Doors	Secure emergency exit doors using an automatic door closer and exit hardware that are compliant with applicable life safety codes and standards. Monitor all emergency exits via visual, electronic, or audible means.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and door hardware.
2.14	Delayed Egress	Use delayed egress hardware at emergency exits from critical or sensitive areas, if fire code allows.	

A.3 – INTERIOR SECURITY COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
3.01	Space Planning	Locate critical systems and areas at least 25 feet away from loading docks, entrances, mailrooms, personnel and package screening locations, and uncontrolled parking, or implement standoff, hardening and venting methods to protect critical areas from the DBT at these locations.	
3.02	Non-Public Area Access	Use signage, stanchions, counters, furniture, knee walls, etc., to establish physical boundaries to control access to nonpublic areas.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and other security systems and hardware at the following critical interior areas: • reception/public interaction areas • interior office doors (all office doors) • common conference rooms • conference rooms with A/V equipment • breakout spaces/break rooms
3.03	Security of Critical Areas	Install electronic access control and IDS to control and monitor access into critical areas.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and other security systems and hardware at the following critical interior areas: • mechanical rooms • MDF rooms • IDF rooms • electrical rooms • generator rooms • fire control rooms
3.04	Building Systems and Roof Access	Secure utility, mechanical, electrical, and telecom rooms, and access to interior space from the roof using locks and IDS.	Refer to the CSVS Physical Security Framework for specific details relating to electronic access controls and other security systems and hardware.
3.05	Publicly Accessible Restrooms	Screen the public before accessing restrooms.	Consistent with direction provided in the CSVS Physical Security Framework, equip public and restricted access restrooms with the following door hardware: • Schlage door position switch 679 • Nabco door operator (requires coordination with CSVS to determine model based on application area and door) • wired push pads

A.4 – BUILDING SYSTEMS & UTILITIES COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
4.01	Air Distribution System (Air Intakes)	Provide emergency shutdown, SIP, and evacuation procedures, and protect accessible air intakes with fencing. Monitor with video surveillance system monitoring or security force patrols.	
4.02	Air Distribution System (Zone Isolation)	Provide separate isolated HVAC systems in lobbies, loading docks, mailrooms, and other locations susceptible to attack with chemical/biological/radiological agents that are isolated from other building areas.	
4.03	Air Distribution System (HVAC Control)	Install an emergency shutoff and exhaust system for air handlers. Control movement of elevators and close applicable doors and dampers to seal building.	
4.04	Bio Filtration (General)	Use a Minimum Efficiency Reporting Value (MERV) 13 particulate filter on all exterior air handling units (AHUs).	
4.05	Bio Filtration (Mailroom/Lobbies)	Use a MERV 13 particulate filter on all AHUs in mailrooms and lobbies.	
4.06	Ventilation Equip. & Controls Security	Protect the system controls from unauthorized access.	
4.07	Emergency Generator Protection	If an emergency generator is used, secure against unauthorized access, and locate the emergency generator and fuel tank at least 25 feet away from loading docks, entrances, and parking, or implement standoff, hardening, and venting methods to protect utilities from credible explosive threats at these locations.	Refer to “Building Hardening Countermeasures” for further discussion. Preferred interior partition wall construction where hardening is required should adhere to guidelines for .exterior (non-glazed) wall systems. Where partition wall hardening is provided, wall construction shall extend to the underside of structure above.
4.08	Protection of Water Supply	Secure handles, control mechanisms, and service connections at onsite publicly accessible locations with locks or other anti-tamper devices.	

A.5 – BUILDING HARDENING COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
5.01	Blast Resistance - Facade	Utilize acceptable fragment retention film or preferred glazing systems to reduce the glass fragmentation hazard. Provide a balanced design approach to ensure a ductile mode of failure is achieved. The wall elements and their anchorage should fully develop the capacity of the supported glazing/wall system.	The Newhouse and Pritchard Buildings are not considered to be targets of a large-scale vehicle-borne explosive attack. Blast protection for these buildings is largely discussed relative to collateral risk associated with explosive attacks that may target higher profile campus buildings or areas of public congregation. Maximize setbacks between the building envelope and areas where visitor/staff vehicles can legally park or idle without drawing unwanted attention. A minimum 20-ft setback is recommended to restricted parking areas. A minimum 50-ft setback is recommended to areas where visitor/public vehicles can legally park of idle without drawing unwanted attention. Use construction materials and exterior wall systems that are inherently ductile, providing energy dissipating mechanisms and ability to sustain load reversals in response to extreme events. Avoid configurations where exterior wall systems are directly supported by building columns or bearing wall segments. System construction that distributes tributary (out-of-plane) loading to the floor structure is preferred The following points summarize preferred construction of exterior glass systems. • Exterior glass should be laminated or monolithic glass that is treated with a fragment retention film. • Preferred glass pane edge attachment consists of a minimum 1/2" bite and application of structural silicone sealant (wet glazing). • Aluminum and steel glass support systems with robust anchorage and a clear load path to the floor diaphragm is preferred. • Avoid use of thermally broken systems. • Avoid location of operable windows within 16-ft of areas readily accessible at the building perimeter. Where operable windows are required for building conditioning, consider solutions that leverage stacked windows with an upper casement window that is hinged along the bottom edge and configured to open outwards. Where operable windows are provided, explore solutions that integrate window controls that can be controlled at central security stations. Where operable windows are provided, CSVS shall review and approve the proposed design. The following points summarize preferred construction of non-glazed exterior wall systems. • Support cladding assemblies on cold-form steel, (vertically) reinforced CMU, or wood-framed wall structures that span floor-to-floor and are able to sustain large (out-of-plane) deflections without sudden, brittle failure. • Design connections at top and bottom of wall systems to accommodate out-of-plane demand attributed to the flexural resistance of the wall.

<table>
<tr><th>ID</th><th>COUNTERMEASURE</th><th>DESCRIPTION</th><th>NOTES</th></tr>
<tr><td>5.01</td><td>Blast Resistance – Façade (Cont'd)</td><td>Utilize acceptable fragment retention film or preferred glazing systems to reduce the glass fragmentation hazard.
Provide a balanced design approach to ensure a ductile mode of failure is achieved. The wall elements and their anchorage should fully develop the capacity of the supported glazing/wall system.</td><td>Where light-frame (wood or cold-form steel) wall systems are used, ensure that adequate stud blocking enable development of the out-of-plane flexural wall resistance without buckling. Additionally, provide structural sheathing (plywood, OSB, metal plating, or corrugated decking) at the exterior face of stud to function as a debris shield.
Provide robust stud construction (or CMU trim reinforcement) at window and door openings.
Where higher (performance-rated) levels of blast-resistance are determined to be necessary, consider approaches outlined in Interagency Security Committee standards and ASCE 59-11 requirements for a "Heavy Damage" performance.</td></tr>
<tr><td>5.02</td><td>Blast Resistance – Structure</td><td>Provide a balanced design approach to ensure a ductile mode of failure is achieved.</td><td>The Newhouse and Pritchard Buildings are not considered to be targets of a large-scale vehicle-borne explosive attack. Blast protection for these buildings is largely discussed relative to collateral risk associated with explosive attacks that may target higher profile campus buildings or areas of public congregation.
Maximize setbacks between the building envelope and areas where visitor/staff vehicles can legally park or idle without drawing unwanted attention. A minimum 20-ft setback is recommended to restricted parking areas. A minimum 50-ft setback is recommended to areas where visitor/public vehicles can legally park of idle without drawing unwanted attention.
Use construction materials and building systems that are inherently ductile, providing energy dissipating mechanisms and ability to sustain load reversals in response to extreme events.
All building materials and structural system types are generally acceptable with the following best practice guidance:
Where steel construction is used, provide compact shapes for columns and floor girders at exterior bays and interior high-risk programmatic areas (public lobby, mailroom, and loading dock).
Where frame systems are used, provide detailing that adheres to IBC requirements for Intermediate Moment Frames at minimum.
Where bearing wall systems are used, reinforce wall segments at the building perimeter to provide vertical wall reinforcement that matches in-plane reinforcement at minimum. Design boundary elements of wall segments at the building perimeter consistent with IBC requirements for special reinforced shear walls.
Where light-frame (wood or cold-form steel) wall systems are used, ensure that adequate stud blocking enable development of the out-of-plane flexural wall resistance without buckling. Design connections at top and bottom of wall segments to accommodate out-of-plane demand attributed to the flexural resistance of the wall.
Unreinforced masonry bearing wall construction is not permitted for new construction. Where existing conditions employ this building systems, quantitative structural resilience studies are recommended.</td></tr>
</table>

ID	COUNTERMEASURE	DESCRIPTION	NOTES
5.02	Blast Resistance – Structure (Cont'd)	Provide a balanced design approach to ensure a ductile mode of failure is achieved.	• Pre-stressed (or post-tensioned) floor systems are not preferred. Where this floor system is used for multi-story buildings, quantitative structural resilience studies are recommended to assess floor structure robustness above high-risk interior areas (public lobby, mailroom, and loading dock). Where pre-stressed floor construction is used, provide the following minimum construction unless more robust construction is required per building code: ○ Provide transvers column reinforcement for the full height of the column that adheres to ACI 318 provisions for SMRF. ○ Provide minimum 2% (gross) vertical steel reinforcement in columns and bearing wall segments. (For bearing wall segments, arrange reinforcement in two curtains.) ○ Vertical steel in columns (or bearing wall segments) shall not exceed 50% of the area that produces balanced strain conditions per ACI 318. ○ Reinforce floor post-tensioned slabs with minimum 4-#5 continuous top and bottom bars at 12-inches on center (maximum) at column strips. ○ Design column joints for punching shear assuming full yield of the post-tensioned flat slab for both positive and negative bending. These prescriptive design measures are recommended to be implemented for structure within one bay of the exterior face of building and within two-stories above grade at minimum. Where higher (performance-rated) levels of blast-resistance are determined to be necessary, consider approaches outlined in Interagency Security Committee standards and ASCE 59-11 requirements for a "Moderate Damage" performance.
5.03	Blast Resistance – Structure (Interior Public Spaces)	Implement architectural or structural features, or other positive countermeasures that deny contact with exposed primary vertical load members in these areas. A minimum standoff of at least 100 mm (four inches) is required.	Where higher (performance-rated) levels of blast-resistance are determined to be necessary, consider approaches outlined in Interagency Security Committee standards and ASCE 59-11 requirements for a "Moderate Damage" performance.

ID	COUNTERMEASURE	DESCRIPTION	NOTES
5.04	Blast Resistance – Structure (Mail/Receiving Areas)	Implement architectural or structural features, or other positive countermeasures that deny contact with exposed primary vertical load members (columns or bearing wall segments) in these areas. A minimum standoff of at least 100 mm (four inches) is required.	The baseline requirement emphasizes the use of cladding, furring or other solution to create a space buffer between the face of column or load bearing wall and possible improvised explosive devices. The requirement does not necessitate hardened construction of partition walls, door, or floor structure forming the mail/receiving area enclosure to contain overpressures resulting from an improvised explosive device. This requirement does not apply where mail/packages are delivered to an offsite central screening and distribution center. Where mail/packages are directly delivered to the building and a dedicated receiving room is not provided where screening can occur, require unscreened mail/packages to be delivered at the main building entrance and visually screened by security personnel. Where higher (performance-rated) levels of blast-resistance are determined to be necessary, consider approaches outlined in Interagency Security Committee standards and ASCE 59-11 requirements for a “Moderate Damage” performance.
5.05	Burglary Resistant Windows	No operable windows on ground floor level. Monitor via IDS.	Avoid location of operable windows within 16-ft of areas readily accessible at the building perimeter. Where operable windows are required for building conditioning, consider solutions that leverage stacked windows with an upper casement window that is hinged along the bottom edge and configured to open outwards. Where operable windows are provided, explore solutions that integrate window controls that can be controlled at central security stations. Where operable windows are determined to be required, the proposed design as well as associated information to understand cost-benefit tradeoffs shall be provided to DES and relevant security stakeholders for review and approval.
5.06	Exterior Wall Openings	Protect non-window openings such as mechanical vents and exposed plenums to resist forcible entry.	Exterior non-window openings (e.g., vents) greater than 96 square inches in perimeter walls should be secured with grills, bars, and IDS.

A.6 – SECURITY OPERATIONS & SYSTEMS COUNTERMEASURES

ID	COUNTERMEASURE	DESCRIPTION	NOTES
6.01	Video Surveillance	Provide video surveillance system coverage of screening checkpoints, personnel and vehicle entrances, exits, loading docks, and lobbies. Record video surveillance system views using a digital medium. When video surveillance system is utilized post signage at the entrance of the location.	Pelco Optera 360 degree 12 megapixel multi-sensor panoramic. Refer to the CSVS Physical Security Framework for additional details relating to location of video surveillance system
6.02	Intrusion Detection System (IDS)	Provide IDS on perimeter entry and exit doors and all ground-floor windows. Monitor at a central station with notification to law enforcement or security responders.	Refer to the CSVS Physical Security Framework for specific details relating to IDS hardware requirements at the following critical locations: • exterior doors • reception/public interaction areas • interior office doors (all office doors) • common conference rooms • conference rooms with A/V equipment • breakout spaces/break rooms
6.03	Duress Alarms (or Assistance Stations)	Provide duress buttons or call buttons at security force posts and sensitive public contact areas.	Refer to the CSVS Physical Security Framework for specific details relating to IDS hardware requirements at the following critical locations: • exterior doors • exterior windows at the first floor • reception/public interaction areas The Senate and House utilize the Crestron system for duress alarms. The Senate currently has multiple duress alarms in each member office. This will be the case in the new building and the infrastructure needed to support the system will be required.
6.04	Security System Integrity	Secure alarm and physical access control panels, video surveillance system components, controllers, and cabling against unauthorized access.	
6.05	Building Communication System	Provide a communication system for security and emergency announcements.	Provide in-building DAS connected to campus DAS system. Provide PA system for emergency communications that provides for centralized integration into campus Genetec Security Center implementation. Only Genetec integrated partner is allowed. Require lockable network enclosures.
6.06	Security System Emergency Power	Provide uninterruptible emergency power to essential electronic security systems for a minimum of four hours.	

ID	COUNTERMEASURE	DESCRIPTION	NOTES
6.07	Fixed Guard Post - Screening Checkpoint	Post armed security force at all screening checkpoints.	

APPENDIX B – PHYSICAL SECURITY FRAMEWORK

The matrix that follows was provided by Department of Enterprise Services (DES) and is understood to capture a high-level assessment of physical and electronic security considerations applicable to new and existing Legislative Campus buildings. The summary provides system/component-level detail to understand preferred hardware and other security-focused design contingencies. This data is intended to be used in tandem with Appendix A, which compiles direction specific to the Newhouse and Pritchard Buildings. DES and other security stakeholders should be engaged in confirming selection of specific physical and electronic hardware.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Exterior Door Components (all exterior doors - limit amount of entry points)	Electronic Access Control	Card reader	HID RP40 multiCLASS SE (in locations where space is limited - HID RP10 multiCLASS SE is allowed)	
		Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Access control system appliance	Genetec Synergis CloudLink	Coordination required with CSVS on install location. Requires 1 appliance per 150 card readers.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.
		Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS.
		Electric Strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Exterior Door Components (Cont'd)	Electronic Access Control (Cont'd)	Electric Strikes (Cont'd)	HES 1006	For use with heavy duty doors such as ballistic resistant doors.
		PIR	Bosch DS150i	
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	
		Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores.
		Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS.
		Removable secured mullion	Must include Corbin Russwin large format I/C housing	Required for locations with double doors. Requires HES 9600 electric strikes on both sides and concealed door position switches on both leafs.
		Hinges		Require high security non-removable hinges.
	Door Operator	Door operator	Nabco	Requires coordination with CSVS to determine model based on application area and door.
		Push pads		Wired push pads.
	Video Surveillance	Camera on exterior of door	Pelco Optera 360 degree 12 megapixel multi-sensor panoramic	Installed at appropriate height/distance from door to show head shots of all individuals who enter facility.
		Camera on interior of door	Pelco GFC Professional 4K 8 megapixel mini dome	
	Duress/Intrusion Detection	Controller	DMP XR 150 with dialer and network panel in large enclosure with battery backup	Must include one time licensing for Genetec Security Center integration. Install location in building MDF. Must be connected to building UPS and Generator systems.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Exterior Door Components (Cont'd)	Duress/Intrusion Detection (Cont'd)	Intrusion Motion Detectors	DMP CDX-DAM Dual Tech Motion Detector	For use at exterior doors/lobby areas/in-building loading docks and garages.
		Glassbreak Detectors	DMP Sentrol 5820A Shatter Pro	
	Emergency Exits	Door hardware		Use appropriate automatic closure and exit hardware.
		Concealed door position switch	Schlage door position switch 679	
		Camera on interior of door	Pelco GFC Professional 4K 8 megapixel mini dome	
	Intercom System	Intercom	2N IP Verso	Coordination required with CSVS for configuration and specifications related to location.
		Tablet	2N Indoor Touch 2.0	
Reception/Public Interaction Areas (required physical separation/secured entry)	Electronic Access Control	Card reader	HID RP40 multiCLASS SE	
		Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Reception/Public Interaction Areas (Cont'd)	Electronic Access Control (Cont'd)	Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS.
		Electric strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.
			HES 1006	For use with heavy duty doors such as ballistic resistant doors.
		PIR	Bosch DS150i	
	Video Surveillance	Cameras for lobby	Pelco GFC Professional 4K 8 megapixel mini dome	Cameras shall show coverage of entire lobby area and interactions between the public and reception staff.
		Camera at door to secured space	Pelco GFC Professional 4K 8 megapixel mini dome	Camera shall show coverage of entry into secured space. Location of camera shall be in secured space.
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	
		Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores.
		Double doors	Must include Corbin Russwin large format I/C housing	If using double doors for entry to secured area, CSVS requires use of removable secured mullion with HES 9600 strikes and concealed door position switch in each leaf.
		Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Reception/Public Interaction Areas (Cont'd)	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
	Duress/Intrusion Detection	Controller	DMP XR 150 with dialer and network panel in large enclosure with battery backup	Must include one time licensing for Genetec Security Center integration. Install location in building MDF. Must be connected to building UPS and Generator systems.
		Button	DMP HUB-M Hold-Up Button	Physically mounted button to be located under desk at public reception area. Additional buttons may be installed with coordination with CSVS.
		Keypad	DMP 7873H-W High Security Touchscreen Keyapd	Based on full duress/Intrusion Detection implemetation for building. Requires coordination with CSVS and consultation with Senate Security.
		Intrusion Motion Detectors	DMP CDX-DAM Dual Tech Motion Detector	For use at exterior doors/lobby areas/in-building loading docks and garages.
		Glassbreak Detectors	DMP Sentrol 5820A Shatter Pro	
	Visitor/Occupant Screening	Metal Detectors	Installation of metal detectors	CSVS will determine if this is a requirement depending on facility rating. Requires Pelco GFC Professional 4K 8 megapixel mini dome.
		X-Ray Equipment	Installation of X-Ray equipment	CSVS will determine if this is a requirement depending on facility rating. Requires Pelco GFC Professional 4K 8 megapixel mini dome.
		Ballistic Protection		Require firm such as Hinman to perform predesign analysis/cost estimating.
	Intercom System	Intercom	2N IP Verso	Coordination and consultation are required with CSVS and Senate Security for configuration and specifications related to location.
		Tablet	2N Indoor Touch 2.0	

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Roof Access	Electronic Access Control	Card reader	HID RP40 multiCLASS SE	
	Electronic Access Control (Cont'd)	Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS as well as consultation with Senate Security. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.
		Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS as well as consultation with Senate Security.
		Electric strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.
			HES 1006	For use with heavy duty doors such as ballistic resistant doors.
		PIR	Bosch DS150i	
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	
		Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores. Requires consultation with Senate Security.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Roof Access (Cont'd)	Door Hardware (Cont'd)	Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS and consultation with Senate Security.
	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
Mechanical Rooms/MDF/IDF/Electrical Rooms/Generator Rooms/Fire Control Rooms	Electronic Access Control	Card reader	HID RP40 multiclass SE	
		Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS as well as consultation with Senate Security. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.
		Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS as well as consultation with Senate Security.
		Electric strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.
			HES 1006	For use with heavy duty doors such as ballistic resistant doors.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Mechanical Rooms/MDF/IDF/Electrical Rooms/Generator Rooms/Fire Control Rooms (Cont'd)	Electronic Access Control (Cont'd)	PIR	Bosch DS150i	
	Video Surveillance	Camera on exterior of door	Pelco GFC Professional 4K 8 megapixel mini dome	
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	Consultation with Senate Security and coordination with CSVS are required on hardware function.
		Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. It requires consultation with Senate Security. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores.
		Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS and consultation with Senate Security.
	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
Interior Office Doors (all office doors)	Electronic Access Control	Card reader	HID RP40 multiclass SE	
		Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS as well as consultation with Senate Security. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Interior Office Doors (Cont'd)	Electronic Access Control (Cont'd)	Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS as well as consultation with Senate Security.
	Electronic Access Control (Cont'd)	Electric strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.
			HES 1006	For use with heavy duty doors such as ballistic resistant doors.
		PIR	Bosch DS150i	
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	Coordination and consultation are required with CSVS and Senate Security on hardware function.
		Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores. It also requires consultation with Senate Security.
		Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS as well as consultation with Senate Security.
	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
	Duress	Controller	DMP XR 150 with dialer and network panel in large enclosure with battery backup	Must include one time licensing for Genetec Security Center integration. Install location in building MDF. Must be connected to building UPS and Generator systems.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
		Button	DMP HUB-M Hold-Up Button	Physically mounted button to be located under desk at public reception area. Additional buttons may be installed with coordination with CSVS and consultation with Senate Security.
Common Conference Rooms/Conference Rooms with Audio Visual Equipment/Breakout Spaces/Break Rooms	Electronic Access Control	Card reader	HID RP40 multiclass SE	
		Controller secured enclosures (combined enclosure for controllers and power supply)	Altronix Trove Enclosure	Requires coordination and specification with CSVS as well as consultation with Senate Security. Requires room for expansion on backplane. If enclosure is full, require additional Altronix Trove enclosure with power supply located adjacent to full enclosure. Enclosure/power supply shall be connected to building UPS and Generator system.
		Controller	Genetec Mercury EP-1502	Must come with pre-installed Genetec license. Connected MR-52's must be on same floor.
		Door Controller	Genetec Mercury MR-52	Must come with pre-installed Genetec license. No more than 8 MR-52 devices can be connected to a single EP-1502.
		Concealed door position switch	Schlage door position switch 679	
		Power Supply	Altronix Trove Power Supply	Requires coordination and specification with CSVS as well as consultation with Senate Security.
		Electric strikes (All strikes to be fail secure unless AHJ requires fail safe operation. Must be 24 volts.)	HES 4500	For use with all single leaf doors.
			HES 9600	For use with removable secured mullions.
			HES 1006	For use with heavy duty doors such as ballistic resistant doors.
		PIR	Bosch DS150i	
	Door Hardware	Cassette	Corbin Russwin ML 2000 mortise lock	

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Common Conference Rooms/Conference Rooms with Audio Visual Equipment/Breakout Spaces/Break Rooms (Cont'd)	Door Hardware	Core/Housing	Corbin Russwin large format I/C housing	Provide construction cores. Construction core control key shall be provided to CSVS. CSVS will coordinate with building tenants on final key issues and deployment of Keymark cores. It also requires consultation with Senate Security.
	Door Hardware (Cont'd)	Crashbars	Von Duprin low voltage quiet electric latch crashbars	Requires coordination with CSVS as well as consultation with Senate Security.
	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
	Duress	Controller	DMP XR 150 with dialer and network panel in large enclosure with battery backup	Must include one time licensing for Genetec Security Center integration. Install location in building MDF. Must be connected to building UPS and Generator systems.
		Button	DMP HUB-M Hold-Up Button	Physically mounted button to be located under desk at public reception area. Additional buttons may be installed with coordination with CSVS.
Restrooms	Door Hardware		Schlage door position switch 679	
	Door Operator	Door operator	Nabco	Requires coordination with CSVS and consultation with Senate Security to determine model based on application area and door.
		Push pads		Wired push pads.
Vehicle Access Control (Parking lots/garages)	Electronic Access Control	Card reader	Post mounted HID long range reader that supports HID SEOS badge technology	To be installed at each parking entry point (garage or surface lot).
	Vehicle Barriers	Roll up gates		To be installed at each garage entry point.
		Parking control arms	Integrated with card reader to allow access.	To be installed at surface lots unless surface mount barricade is installed.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Vehicle Access Control (Cont'd)	Vehicle Barriers (Cont'd)	High Security Electronic Sliding Gate	K4 rated electronic sliding gate integrated with card reader to allow access.	To be installed in high security locations in conjunction with surface mount barricade. Not to be used with roll up doors.
		Surface Mounted Barricade	K4 rated surface mount barricade with motor equipment, stop/go lights, and integration with card reader to allow access.	To be installed in high security locations.
	Video Surveillance	Camera located at vehicle barrier	Pelco Optera 360 degree 12 megapixel multi-sensor panoramic	To be installed at all vehicle access control points.
		Camera located at vehicle barrier	Genetec SharpV ALPR fixed camera	To be installed at all vehicle access control points.
		Camera coverage of parking area	Pelco Optera 360 degree 12 megapixel multi-sensor panoramic	
		Camera coverage of visitor parking/drop off zones	Pelco Optera 360 degree 12 megapixel multi-sensor panoramic	
	Emergency Call Box			Requires coordination with CSVS and consultation with Senate Security.
Blast Resistance/Progressive Collapse (areas include: Under building parking, façade, windows)	Forced Entry			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Vehicle -Ramming			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Ballistic			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Resilience			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Improvised Explosive Devices (IED)			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Seismic			Require firm such as Hinman to perform predesign analysis/cost estimating.

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
Blast Resistance/Progressive Collapse (Cont'd))	Bollards			Require firm such as Hinman to perform predesign analysis/cost estimating.
	Windows (blast/ballistic protections)			Non-operable windows on ground level. Monitor windows with intrusion detection components.
Crime Prevention Through Environmental Design (CPTED)	Lighting	Outdoor lighting	Install exterior lighting at entrances, exits, parking lots, garages and walkways.	Require lighting in accordance with Illuminating Engineering Society (IES) standards and guide for security. Shall be roughly 5-5.5 foot candle rating.
	Landscaping		Utilize CPTED principles.	Minimize areas of concealment in and around facilities. Establish clear zone around barriers and fences. Restrict landscape from obstructing surveillance camera views or interfering with lighting.
	Restricted Areas		Provide fencing, walls, gates or other barriers to prevent unauthorized access.	Also requires video surveillance with Pelco Optera 360 degree 12 megapixel mult-sensor panoramic camera and appropriate signage.
	Stand off distances	Mail/Garbage/Recycle locations	Position away from facility with minimum 25 foot standoff distance from facility. Implement blast containment measures.	Consideration should be given for ease of access to roll carts. Location shall have loading dock type access, so employees can perform work without lifting.
		Generator/Fuel storage	Position away from facility with minimum 25 foot standoff distance from facility and monitor with video surveillance.	Also requires video surveillance with Pelco Optera 360 degree 12 megapixel mult-sensor panoramic camera and appropriate signage.
		Hazardous materials	Locate in restricted area with minimum 25 foot standoff distance from facility and monitor through electronic access control and video surveillance.	
Water Supply			Secure controls and service connections with locks.	
HVAC	Air Intakes		Locked/Secured air intakes and fence accessible air intakes. Monitor with video surveillance.	Video surveillance with Pelco Optera 360 degree 12 megapixel mult-sensor panoramic camera and appropriate signage.
	Equipment shut down		Install in-building emergency shut off for air handlers	

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
HVAC (Cont'd)	Isolated ventilation systems		Install spearate/isolated HVAC for lobby, loading docks and mailrooms.	
	Biological filtration system		Require MERV 13 rated filters for lobby areas and mailrooms. MERV 10 filters in other areas.	
Distributed Antenna Systems (DAS)	In-building DAS		Provide in-building DAS connected to campus DAS system.	
Public Address System (PA System)	In-building PA		Provide PA system for emergency communications that provides for centralized integration into campus Genetec Security Center implementation. Only Genetec integrated partner is allowed.	
Network Switches	Networking equipment			Network switches will be provided by owner in coordination with CSVS.
	Enclosures		Require lockable network enclosures.	Requires coordination with owner and CSVS.
Wiring	Electronic Access Control	Card readers	Belden new generation 22/6	Twisted, shielded, copper, plenum rated with drain.
		IP controllers	Cat6 ethernet - color pink	
		RS485 Door controllers	Belden new generation 18/2	Twisted, shielded, copper, plenum rated with drain.
		Lock power	Belden new generation 18/2	Twisted, shielded, copper, plenum rated with drain.
		Door position switch	Belden new generation 18/2	Twisted, shielded, copper, plenum rated with drain.
	Video Surveillance	Video surveillance cameras	Cat6 ethernet - dark green	

LOCATION	EQUIPMENT TYPE	EQUIPMENT SUB TYPE	REQUIRED MANUFACTURER/MODEL	NOTES
	Duress	Controller	Cat6 ethernet - color pink	
Wiring (Cont'd)	Duress (Cont'd)	Buttons	Follow manufacturer recommendation	
		Keypad	Follow manufacturer recommendation	
		Intrusion Motion Detectors	Follow manufacturer recommendation	Twisted, shielded, copper, plenum rated with drain.
		Glassbreak Detectors	Follow manufacturer recommendation	Twisted, shielded, copper, plenum rated with drain.
	Fiber Optic	Single mode fiber	Minimum 24 strand OS2 single mode fiber optic cabling with LC connectors. Shall be terminated and certified.	Requires coordination with CSVS to determine route and termination locations. Could be combined in hybrid cable with 12 strand multi-mode to support Buildings and Grounds fire panel connectivity.
	Ethernet	Ethernet horizontal cabling	Cat6 minimum terminated and certified.	
Concealment/Safe Rooms	Dead bolts			Shall be integrated with Corbin Russwin ML 2000 cassette. Shall include Corbin Russwin large format I/C core. Thumb turn on inside, key lock on outside. Dead bolts shall comply with fire code, AHJ and IBC. This is for use in areas such as restrooms and other locations with gatherings of less than 50 individuals.
	Blinds			

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: **LCM -Newhouse and Parking**

Date: 8/19/2020

Y	M	U	N			
1				Credit	Integrative Process	1

6	6	2	17	**Location and Transportation**		**16**
			16	Credit	LEED for Neighborhood Development Location	16
1				Credit	Sensitive Land Protection	1
1				Credit	High Priority Site	2
2	2		1	Credit	Surrounding Density and Diverse Uses	5
	3	2		Credit	Access to Quality Transit	5
1				Credit	Bicycle Facilities	1
	1			Credit	Reduced Parking Footprint	1
1				Credit	Green Vehicles	1

3	4	1	1	**Sustainable Sites**		**10**
Y				Prereq	Construction Activity Pollution Prevention	Required
1				Credit	Site Assessment	1
	2			Credit	Site Development - Protect or Restore Habitat	2
	1			Credit	Open Space	1
	1	1	1	Credit	Rainwater Management	3
1				Credit	Heat Island Reduction	2
1				Credit	Light Pollution Reduction	1

4	1		2	**Water Efficiency**		**11**
Y				Prereq	Outdoor Water Use Reduction	Required
Y				Prereq	Indoor Water Use Reduction	Required
Y				Prereq	Building-Level Water Metering	Required
1				Credit	Outdoor Water Use Reduction	2
2	1	1	2	Credit	Indoor Water Use Reduction	6
		2		Credit	Cooling Tower Water Use	2
1				Credit	Water Metering	1

11	7		10	**Energy and Atmosphere**		**33**
Y				Prereq	Fundamental Commissioning and Verification	Required
Y				Prereq	Minimum Energy Performance	Required
Y				Prereq	Building-Level Energy Metering	Required
Y				Prereq	Fundamental Refrigerant Management	Required
6				Credit	Enhanced Commissioning	6
3	3	4	8	Credit	Optimize Energy Performance	18
1				Credit	Advanced Energy Metering	1
			2	Credit	Demand Response	2
	2	1		Credit	Renewable Energy Production	3
1				Credit	Enhanced Refrigerant Management	1
	2			Credit	Green Power and Carbon Offsets	2

9	3	0	1	**Materials and Resources**		**13**
Y				Prereq	Storage and Collection of Recyclables	Required
Y				Prereq	Construction and Demolition Waste Management Planning	Required
4			1	Credit	Building Life-Cycle Impact Reduction	5
1	1			Credit	Bldg Product Disclosure and Optimization - EPD	2
1	1			Credit	Bldg Product Discl and Opt - Sourcing of Raw Materials	2
1	1			Credit	Bldg Product Discl and Opt - Material Ingredients	2
2				Credit	Construction and Demolition Waste Management	2

8	2	3	0	**Indoor Environmental Quality**		**16**
Y				Prereq	Minimum Indoor Air Quality Performance	Required
Y				Prereq	Environmental Tobacco Smoke Control	Required
1				Credit	Enhanced Indoor Air Quality Strategies	2
3				Credit	Low-Emitting Materials	3
1				Credit	Construction Indoor Air Quality Management Plan	1
1		1		Credit	Indoor Air Quality Assessment	2
1				Credit	Thermal Comfort	1
		2		Credit	Interior Lighting	2
	1			Credit	Daylight	3
	1			Credit	Quality Views	1
1				Credit	Acoustic Performance	1

6	0	0	0	**Innovation**		**6**
1				Credit	Pilot credit - social impact	1
1				Credit	Pilot credit - resilience	1
1				Credit	Pilot credit - health promotion	1
1				Credit	Innovation or exemplary performance	1
1				Credit	Innovation or exemplary performance	1
1				Credit	LEED Accredited Professional	1

2	1	1	0	**Regional Priority**		**4**
1				Credit	Building product disclosure - source raw materials (min 1 pt)	1
1				Credit	Building product disclosure - EPD (min 1 point)	1
	1			Credit	Renewable energy production (min 2 points)	1
		1		Credit	Indoor water use reduction (min 4 points)	1
		1			Rainwater management (min 3 points)	
			1		Demand Response (min 1 point)	

50	24	7	31	**TOTAL**	Possible Points:	**110**

Certified: 40 - 49 points, **Silver:** 50 - 59 points, **Gold:** 60 - 79 points, **Platinum:** 80 - 110

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: **LCM Pritchard**

Date: 6/9/2020

Y	?	N			
1			Credit	Integrative Process	1

Y	?	N			
5	**9**	**17**		**Location and Transportation**	**16**
		16	Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
1			Credit	High Priority Site	2
2	2	1	Credit	Surrounding Density and Diverse Uses	5
	5		Credit	Access to Quality Transit	5
	1		Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

Y	?	N			
3	**5**	**1**		**Sustainable Sites**	**10**
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
	2	1	Credit	Rainwater Management	3
1			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

Y	?	N			
4	**4**	**2**		**Water Efficiency**	**11**
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1			Credit	Outdoor Water Use Reduction	2
2	2	2	Credit	Indoor Water Use Reduction	6
	2		Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

Y	?	N			
14	**9**	**10**		**Energy and Atmosphere**	**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
4	6	8	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
2	1		Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

Y	?	N			
9	**3**	**1**		**Materials and Resources**	**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
4		1	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Bldg Product Disclosure and Optimization - EPD	2
1	1		Credit	Bldg Product Discl and Opt - Sourcing of Raw Materials	2
1	1		Credit	Bldg Product Discl and Opt - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

Y	?	N			
8	**5**	**0**		**Indoor Environmental Quality**	**16**
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
	2		Credit	Interior Lighting	2
	1		Credit	Daylight	3
	1		Credit	Quality Views	1
1			Credit	Acoustic Performance	1

Y	?	N			
6	**0**	**0**		**Innovation**	**6**
1			Credit	Pilot credit - social impact	1
1			Credit	Pilot credit - resilience	1
1			Credit	Pilot credit - health promotion	1
1			Credit	Innovation or exemplary performance	1
1			Credit	Innovation or exemplary performance	1
1			Credit	LEED Accredited Professional	1

Y	?	N			
3	**1**	**0**		**Regional Priority**	**4**
1			Credit	Building product disclosure - source raw materials (min 1 pt)	1
1			Credit	Building product disclosure - EPD (min 1 point)	1
1			Credit	Renewable energy production (min 2 points)	1
	1		Credit	Indoor water use reduction (min 4 points)	1
			Credit	Rainwater management (min 3 points)	
			Credit	Demand Response (min 1 point)	

Y	?	N			
53	**36**	**31**		**TOTAl** Possible Points:	**110**

Certified: 40 - 49 points, **Silver:** 50 - 59 points, **Gold:** 60 - 79 points, **Platinum:** 80 - 110

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: **LCM O'Brien**

Date: 8/14/2020

Y	?	N			
1			Credit	Integrative Process	1

5	9	17		**Location and Transportation**	**16**
		16	Credit	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
1			Credit	High Priority Site	2
2	2	1	Credit	Surrounding Density and Diverse Uses	5
	5		Credit	Access to Quality Transit	5
	1		Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

3	5	1		**Sustainable Sites**	**10**
Y			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
	2		Credit	Site Development - Protect or Restore Habitat	2
	1		Credit	Open Space	1
	2	1	Credit	Rainwater Management	3
1			Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1

4	4	2		**Water Efficiency**	**11**
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
1			Credit	Outdoor Water Use Reduction	2
2	2	2	Credit	Indoor Water Use Reduction	6
	2		Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

14	9	10		**Energy and Atmosphere**	**33**
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
4	6	8	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
2	1		Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
	2		Credit	Green Power and Carbon Offsets	2

9	3	1		**Materials and Resources**	**13**
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
4		1	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Bldg Product Disclosure and Optimization - EPD	2
1	1		Credit	Bldg Product Discl and Opt - Sourcing of Raw Materials	2
1	1		Credit	Bldg Product Discl and Opt - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

8	5	0		**Indoor Environmental Quality**	**16**
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
1			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
	2		Credit	Interior Lighting	2
	1		Credit	Daylight	3
	1		Credit	Quality Views	1
1			Credit	Acoustic Performance	1

6	0	0		**Innovation**	**6**
1			Credit	Pilot credit - social impact	1
1			Credit	Pilot credit - resilience	1
1			Credit	Pilot credit - health promotion	1
1			Credit	Innovation or exemplary performance	1
1			Credit	Innovation or exemplary performance	1
1			Credit	LEED Accredited Professional	1

3	1	0		**Regional Priority**	**4**
1			Credit	Building product disclosure - source raw materials (min 1 pt)	1
1			Credit	Building product disclosure - EPD (min 1 point)	1
1			Credit	Renewable energy production (min 2 points)	1
	1		Credit	Indoor water use reduction (min 4 points)	1
			Credit	Rainwater management (min 3 points)	
			Credit	Demand Response (min 1 point)	

53	36	31	**TOTAl**	Possible Points:	**110**

Certified: 40 - 49 points, **Silver:** 50 - 59 points, **Gold:** 60 - 79 points, **Platinum:** 80 - 110

September 1, 2020

Mr. Majid Jamali
Washington State Department of Enterprise Services
Facility Professional Services – Planning and Project Delivery Team
1500 Jefferson Street, PO Box 41476
Olympia, WA 98504

RE: PREDESIGN GEOTECHNICAL ENGINEERING RECOMMENDATIONS
STATE LEGISLATIVE CAMPUS MODERNIZATION
STATE CAPITOL CAMPUS, OLYMPIA, WASHINGTON

Dear Mr. Jamali:

We have prepared this letter report to present the results of our predesign geotechnical engineering recommendations for the State Legislative Campus Modernization for the buildings at the State Capitol Campus in Olympia, Washington . We understand the State Legislative Campus Modernization project will include the design and construction of the Legislative Agencies and House (LAH) building and the Senate building which are in development. We have prepared these predesign geotechnical engineering recommendations based on existing subsurface information and supplemental geotechnical investigation to assist the design team in estimating the geotechnical-related project costs and to evaluate building layout alternatives. The subsequent sections present the following:

- A site and project description,
- An overview of the existing subsurface information,
- A description of the subsurface conditions at the site,
- The results of our supplemental subsurface exploration and laboratory testing for one boring near the proposed Senate building,
- The results of our predesign geotechnical studies and recommendations, and
- Our recommendations for additional subsurface explorations and geotechnical engineering evaluations.

SITE AND PROJECT DESCRIPTION

The general project location is provided in Figure 1. The proposed site of the new LAH and Senate buildings are currently occupied by the Pritchard Library and Newhouse buildings, respectively, as well as surface parking lots. Just west of the LAH building there is an existing southwest-trending vegetative slope. We understand the positions of the new structures are in development and may be revised as the project progresses. However, we understand the new buildings would range between two and three stories tall and will either be constructed near the existing grade or will include a one-story, approximately 10-foot-deep basement. Figure 2 shows a proposed footprint of the LAH and Senate buildings.

The area within the proposed LAH and Senate building footprints are relatively flat. However, the slope west of the LAH building is approximately 110 feet high and includes slope inclinations approaching approximately 1.5 horizontal to 1 vertical (1.5H:1V). This slope is within a historical landslide feature and has been subject to shallow slope instability in the past as identified in previous landslide stability evaluations performed by others. The impact of slope stability for the LAH building are considered in the recommendations provided in this letter report.

EXISTING SUBSURFACE INFORMATION

We developed our understanding of the subsurface conditions at the site based on existing data generated by previous studies at and near the project location. These reports include previous geotechnical investigations near the proposed LAH building location as part of a Capitol Campus hillside stability study. The subsurface exploration used to inform the analysis of the Senate building is based on the nearby geotechnical explorations that were performed for the Washington State Legislative Building. The references used to develop our recommendations included:

- Hillside Evaluation and Preliminary Design for Olympia Capitol Campus, Olympia, Washington (Golder Associates, 2010)
- Seismic Ground Motion Study for the Washington State Legislative Building, Pre-Schematic Services for Updated Seismic Analyses, Olympia, Washington (Shannon & Wilson, 2001)

SUPPLEMENTAL SUBSURFACE EXPLORATION

Shannon & Wilson performed on boring SW-1 to augment the existing information for geotechnical information near the proposed Senate building. This boring was drilled using mud-rotary techniques by Holt Services, Inc. of Edgewood, Washington on August 18, 2020, under subcontract to Shannon & Wilson. A representative from Shannon & Wilson was present during the boring to observe the drilling and sampling operations, retrieve representative soil samples for subsequent laboratory testing, and prepare descriptive field logs. The samples were placed in jars and returned to our laboratory for additional visual classification.

The boring log for SW-1 is presented in Appendix A. A boring log is a written record of the subsurface conditions encountered in the boring. It graphically shows the geologic units (i.e. soil layers) encountered in the boring and the Unified Soil Classification System (USCS) symbol of each geologic layer. The boring log also includes the natural water content, penetration resistance, percent fines, and the Atterberg Limits of soil samples at various depths within the boring where those tests were performed. Other information shown in the boring logs includes types and depths of sampling, descriptions of obstructions and debris encountered in the borings, and observed drilling problems and soil behavior related to caving, raveling, and heave. A soil description and log key for the boring logs is also included in Appendix A.

Soil Sampling

Soil samples from the project boring were obtained in conjunction with the Standard Penetration Test (SPT) at the depths shown in the boring logs. SPTs were performed in accordance with ASTM Designation D1586, Standard Method for Penetration Testing and Split-Barrel Sampling of Soils (ASTM, 2011). The SPT consists of driving a 2-inch-outside-diameter, split-spoon sampler a distance of 18 inches into the bottom of the borehole with a 140-pound hammer falling 30 inches. The number of blows required for the last 12 inches of penetration is termed the Standard Penetration Resistance (SPT N value). The SPT N value is an empirical parameter that provides a means for evaluating the relative density, or compactness, of granular soils and the consistency, or stiffness, of cohesive soils. SPT N values are plotted at the midpoint of the sample depths on the boring logs. Whenever 50 or more blows were required to cause 6 inches or less of penetration, the test was terminated and the number of blows and the corresponding penetration were recorded. SPTs were performed at 2.5-foot intervals to 20 feet below ground surface (bgs) and at 5-foot intervals thereafter. Soil samples from the SPT were labelled, sealed, and taken to the Shannon & Wilson laboratory for laboratory testing.

Geotechnical Laboratory Testing

Geotechnical laboratory tests were performed by Shannon & Wilson on selected samples retrieved from project borings to classify the soil and determine index and engineering properties of the materials. Laboratory tests included visual classification, grain size, moisture content, and Atterberg Limits on selected samples. Laboratory tests were performed in accordance with applicable ASTM standards. Laboratory test results are presented in Appendix A and incorporated into the boring log, as appropriate.

INTERPRETED SUBSURFACE CONDITIONS

Based on the available subsurface information, the existing soils at the site include fill and native sands, silts, and clays as described below:

- **Fill:** When encountered the fill material included loose silty fine sand and medium stiff to stiff sandy silt and clayey silt. In the existing explorations performed near the proposed LAH and Senate buildings, the surficial fill is generally 4.5 feet thick.
- **Native Soils:** Native sandy silt, clayey silt, silty sand, and fine sand underly the fill. Based on the existing information, the native soils can be predominantly classified as silt with fine sandy and clayey soil interbeds. In general, the native soils are soft to medium stiff within approximately 30 feet of the ground surface and increase in stiffness at depth.

The existing vibrating wire piezometer in boring GB-2 did not record any groundwater readings which indicates groundwater is below the lowest sensor at approximately elevation 50 feet (NAVD88). Given the height of the proposed buildings above Capitol Lake, it is likely the groundwater table is located at least 100 feet below the foundation level, although perched groundwater could be encountered higher.

PREDESIGN GEOTECHNICAL RECOMMENDATIONS

Our predesign geotechnical analyses and recommendations included:

- Seismic ground motion estimates,
- Screening-level evaluation of earthquake-induced geologic hazards,
- Screening-level evaluation of slope stability,
- Conceptual foundation recommendations for the proposed LAH and Senate buildings, and
- Recommendations for additional geotechnical engineering evaluations and subsurface explorations for future project phases.

Each of these topics are discussed individually in the following sections. We understand that the buildings will be designed per the 2020 State Building Code, which has adopted the 2018 International Building Code (IBC; International Code Council, 2017) as the design basis.

The recommendations provided in this memorandum should be considered conceptual and used for preliminary planning purposes only. Our geotechnical recommendations are based on existing subsurface information and supplemental subsurface investigation. These recommendations should be revised as additional explorations, laboratory testing, and engineering analyses are performed for future design phases.

Seismic Design Ground Motions

We developed the seismic design response spectra parameters in general accordance with the 2018 IBC and American Society of Civil Engineers (ASCE) 7-2016 (ASCE 7-16; ASCE, 2017) requirements. Exhibit 1 provides the predesign design response spectra parameters and the risk targeted Maximum Considered Earthquake (MCE_R) and Maximum Considered Earthquake Geometric Mean (MCE_G) ground motion parameters from which the design response spectra parameters were derived. The MCE_R ground motion parameters correspond to a target risk of 1% in 50 years of structural collapse and are derived from probabilistic ground motions with a return period of 2,475 years. The MCE_G ground motion parameters are the 2,475-year ground motion parameters without any adjustment for a target collapse risk. Note that the parameters provided in Exhibit 1 are for predesign and discussion purposes only. Based on the subsurface conditions at the site a site-specific ground motion analysis procedure consisting of either a site response analysis or a ground motion hazard analysis is required per the 2018 IBC and ASCE 7-16. We understand this analysis will be completed as part of a future design phase and the ground motions provided in Exhibit 1 will be updated.

Computation of the ground motion parameters is based on seismological input and site soil response factors. The seismological inputs are the MCE_R horizontal response spectral acceleration values at periods of 0.2-second (S_S) and 1.0-second (S_1) and the MCE_G horizontal peak acceleration (PGA).

We evaluated the site soil response using soil site response factors. The site soil response factors are expressed as a function of the seismological inputs and a site classification based on the subsurface conditions. The seismological inputs S_S, S_1, and peak ground acceleration (PGA) are scaled by the site soil coefficients F_a, F_v, and F_{PGA}, respectively, that are determined based on the site classification and the magnitude of S_S, S_1, and PGA values.

We evaluated the site classification based on the available subsurface information, our understanding of the geologic conditions, and our experience. Based on the ASCE 7-16 Site Class criteria, the LAH building site corresponds to Site Class E based on the existing boring

GB-2 near the Pritchard Library. Similarly, for the Senate Building corresponds to a Site Class D based on supplemental boring SW-1 and boring S-1 near the Legislative Building. We note per ASCE 7-16, a site response analysis is required for structures without seismic isolation or damping systems on Site Class D and E sites with specific exceptions outlined in Section 11.4.8. The exceptions include:

- Structures on Site Class E sites with S_s greater than or equal to 1.0, provided the site coefficient F_a is taken as equal to that of Site Class C.
- Structures on Site Class D sites with S_1 greater than or equal to 0.2, provided the value of the seismic response coefficient C_s is determined by Eq. (12.8-2) for values of $T \leq 1.5T_S$ and taken as equal to 1.5 times the value computed in accordance with either Eq. (12.8-3) for $T_L \geq T > 1.5\ T_S$ or Eq. (12.8-4) for $T > T_L$.
- Structures on Site Class E sites with S_1 greater than or equal to 0.2, provided that T is less than or equal to T_s and the equivalent static force procedure is used for design.

Exhibit 1: <u>LAH building:</u> Estimated Predesign Response Spectrum Parameters for Site Class E. *<u>Values for pre-design only</u>*. A site-specific analysis will be required prior to final design as specified by ASCE 7-16

Parameter	Description	Value
S_s	Mapped MCE_R, 5% damped, short period acceleration	1.41 g
S_1	Mapped MCE_R, 5% damped, spectral acceleration at a period of 1 second	0.52 g
S_{MS}	Mapped MCE_R, 5% damped, short period acceleration adjusted for site effects (see Note 1)	1.69 g
S_{M1}	Mapped MCE_R, 5% damped, spectral acceleration at a period of 1 second adjusted for site effects (see Note 2)	1.13 g
S_{DS}	Design, 5% damped, short period acceleration (see Note 1)	1.13 g
S_{D1}	Design, 5% damped, spectral acceleration at a period of 1 second (see Note 2)	0.75 g
T_0	Reference Period ($T_0 = 0.2\ S_{D1} / S_{DS}$)	0.13 sec
T_S	Corner Period ($T_s = S_{D1} / S_{DS}$)	0.67 sec
T_L	Long-period transition period	16 sec
PGA	Mapped MCE_G peak ground acceleration	0.61 g
PGA_M	Mapped MCE_G peak ground acceleration adjusted for site effects	0.67 g

NOTES:

1 Values for the short-period site coefficient, F_a, were extrapolated based on values provided in the 2018 IBC and ASCE 7-16. Values are based on the exception for a site-specific ground motion procedure by using F_a values equal to that of Site Class C. A site-

specific ground motion procedure is required otherwise to evaluate the seismic ground motion design parameters and response spectrum. The resulting S_{MS} and S_{DS} values are provided for discussion purposes only.

2 Values for the long-period site coefficient, F_v, were evaluated based on values provided in the 2018 IBC and ASCE 7-16 for the purposes of evaluating T_S. The resulting S_{M1} and S_{D1} values are provided for discussion purposes only. A site-specific ground motion procedure is required to evaluate the seismic ground motion design parameters and response spectrum.

g = acceleration of gravity, sec = seconds

Exhibit 2: Senate Building: Estimated Predesign Response Spectrum Parameters for Site Class D. *Values for pre-design only*. A site-specific analysis will be required prior to final design as specified by ASCE 7-16

Parameter	Description	Value
S_s	Mapped MCE_R, 5% damped, short period acceleration	1.41 g
S_1	Mapped MCE_R, 5% damped, spectral acceleration at a period of 1 second	0.52 g
S_{MS}	Mapped MCE_R, 5% damped, short period acceleration adjusted for site effects (see Note 1)	1.41 g
S_{M1}	Mapped MCE_R, 5% damped, spectral acceleration at a period of 1 second adjusted for site effects (see Note 2)	0.93 g
S_{DS}	Design, 5% damped, short period acceleration (see Note 1)	0.94 g
S_{D1}	Design, 5% damped, spectral acceleration at a period of 1 second (see Note 2)	0.62 g
T_0	Reference Period ($T_0 = 0.2\ S_{D1} / S_{DS}$)	0.13 sec
T_S	Corner Period ($T_s = S_{D1} / S_{DS}$)	0.66 sec
T_L	Long-period transition period	16 sec
PGA	Mapped MCE_G peak ground acceleration	0.61 g
PGA_M	Mapped MCE_G peak ground acceleration adjusted for site effects	0.67 g

NOTES:

1 Values for the short-period site coefficient, F_a, were extrapolated based on values provided in the 2018 IBC and ASCE 7-16. The resulting S_{MS} and S_{DS} values are provided for discussion purposes only. A site-specific ground motion procedure is required to evaluate the seismic ground motion design parameters and response spectrum.

2 Values for the long-period site coefficient, F_v, were evaluated based on values provided in the 2018 IBC and ASCE 7-16. The resulting S_{M1} and S_{D1} values are provided for discussion purposes only. A site-specific ground motion procedure is required to evaluate the seismic ground motion design parameters and response spectrum unless the spectrum is altered per the exception in ASCE 7-16 Section 11.4.8.

g = acceleration of gravity, sec = seconds

The actual response spectrum used for design will need to be evaluated using a site-specific ground motion analysis procedure and would likely vary from the estimate provided above.

Seismically Induced Geologic Hazards

In our opinion, the seismically induced geologic hazards that could affect the site include fault-related ground rupture, landsliding, and liquefaction and its associated effects (such as loss of shear strength, bearing capacity failure, settlement, and lateral spreading). Each of these hazards are discussed in the following sections.

Fault-related ground rupture

Based on fault mapping provided by the USGS, the closest known potentially active fault to the site is the Olympia Fault. The sites are potentially located 0.8 miles southwest of the moderately constrained northwest-southeast-trending fault structure. Based on field observations performed at river inlets, Sherrod (2001) inferred that an earthquake may have occurred on the Olympia Fault approximately 1,100 years ago. However, due to the lack of historical seismicity associated with the structure, in our opinion, the risk of ground surface rupture at the site is moderately low.

Liquefaction

Liquefaction is a phenomenon in which excess pore pressure in loose, saturated, cohesionless soil increases during ground shaking to a level near the initial effective stress, thus resulting in a reduction of shear strength of the soil (i.e. a quicksand-like condition). Effects of liquefaction include seismic-induced ground settlement, lateral spreading and slope instability, and loss of vertical and lateral foundation restraint.

We performed preliminary evaluations of the liquefaction potential of the subsurface soils using the Standard Penetration Test (SPT) based procedure of Boulanger and Idriss (2014) and the available explorations and laboratory test data. The liquefaction susceptibility of the native fine-grained soils were evaluated based on the methods proposed by Boulanger and Idriss (2006) and Bray and Sancio (2006). The earthquake loading was evaluated based on the procedures outlined in the 2018 IBC, ASCE 7-16, and deaggregation data provided by the USGS. Based on our preliminary analyses, we anticipate that below the proposed building locations the potential for liquefaction is low during the design ground motion considering the deep groundwater depth.

Soils that liquefy will experience strength loss due to the generation of high excess pore pressures. As the excess pore pressures dissipate, the liquefied soil will consolidate and settle. Based on the results of our preliminary SPT-based liquefaction potential evaluations and the method of Ishihara and Yoshimine (1992), we estimate that seismic settlement of up 4 inches near the Senate building and up to 6 inches near the LAH building could occur within the proposed building footprint.

Landsliding

The existing topography at the proposed LAH and Senate building locations is relatively flat; however, the topography to the west of the LAH building includes slopes about 110 feet high and are inclined from about 1.7H:1V in the upper portion to flatter than 6H:1V at the lower part of the slope. Based on our understanding of the subsurface conditions and the site history, the site is likely susceptible to seismically induced slope instability. The slope west of the site has experienced instability in the past with observations noted by Golder Associates (2010) of a shallow slope failure estimated less than 20 years old in 1997. Also based on LiDAR data, Golder Associates (2010) noted the potential presence of ancient deep-seated landslides in the natural slopes west of the existing Pritchard building. Golder Associates (2010) notes that while these ancient landslide features are currently stable, seismic loading has the potential to initiate additional slope movement. Our predesign recommendations with respect to slope stability are presented in the following section.

Slope Stability

We performed preliminary screening-level limit equilibrium slope stability analysis using SLOPE/W (Geo-Slope International, 2019). We evaluated one northeast-southwest-trending cross section based on the existing site topography through the natural slope near the southwestern portion of the site. Our preliminary stability evaluations considered static and seismic loading conditions described as follows:

- Static Stability: Only static driving forces due to the slope geometry and subsurface conditions contribute to the stability of the slope.
- Seismic Stability: In addition to the static forces, the seismic analyses considered inertial loads due to the earthquake loading using the pseudo-static method. In the pseudo-static method, the seismic response of the slope is represented by a constant acceleration value that acts outboard of the slope.

Limit-equilibrium stability evaluations provide a factor of safety (FS) computed as the sum of the driving forces divided by the sum of the soil resistances. Based on the limit equilibrium FS values we evaluated clear distances, or setbacks, behind the top of the wall / slope for preliminary siting purposes. The 2018 IBC provides very little guidance with respect to slope stability; therefore, our recommendations incorporated guidelines provided in the Washington State Department of Transportation (WSDOT) Geotechnical Design Manual (GDM; WSDOT, 2019) which in our opinion generally summarizes the geotechnical state of practice in Washington State.

We note that the FS from limit equilibrium methods only provide an indirect estimate of the anticipated slope performance (i.e. deformation). If the slope performance is a critical to the building design more sophisticated analyses, such as numerical modeling continuum methods, can provide a more realistic estimate of the slope deformation due to a seismic event. A further discussion of this method is provided in the Recommendations for Future Analysis section at the end of this report. The following sections provide our predesign slope stability recommendations for the natural slope cross section.

Natural Slope Stability

Under static conditions, the WSDOT GDM recommends a minimum FS of 1.3 for slopes that do not support structures and a minimum FS of 1.5 for slopes that support structures. Our recommendations assume a minimum FS for static conditions of 1.5 given the location of the Pritchard Library/LAH building. For seismic and post-seismic conditions, the WSDOT recommends a minimum FS of 1.1.

To satisfy the static stability requirements, we recommend a minimum building setback of at least 70 feet from the top of the western slope. However, we anticipate that slope movement could occur as far back as 100 feet from the top of the slope during the design ground motion. Our analyses did not consider ground improvement or pile supported foundations. A further discussion on the potential effects of seismic deformation for different foundation options are provided in the Foundation Design section.

Foundation Design

For predesign purposes we considered two general foundation alternatives for the Senate building: shallow foundations and deep foundations. For predesign purposes we considered only deep foundations for the LAH building. Shallow foundations were not considered for the LAH building due to the nearby slope and seismic slope stability concerns. Each foundation alternative is discussed individually in the following sections.

Shallow Foundations

The near surface soils at the Senate building generally consist of loose fill composed of silts to silty sands. Provided that:

- The upper two feet are excavated and replaced with compacted well-graded structural fill,
- The exposed subgrade is evaluated by qualified field representative and soft or unsuitable soils are excavated and replaced with compacted structural fill, and

- The exposed subgrade is compacted to a dense and unyielding condition

An allowable bearing pressure of 2 kips per square foot (ksf) may be used for predesign of shallow spread footings that could support the Senate building. We anticipate that footings designed with this bearing pressure will experience post-construction settlement of less than 1 inch. However, as noted previously, under seismic conditions we anticipate that settlement could occur due to post-liquefaction settlement of the underlying soils. Connecting individual foundations with grade beams could help mitigate the potential for differential settlements, however the building and it's connecting utilities would need to be designed to account for the potential for seismic settlements.

Deep Foundations

Deep foundations can be used to transfer the structural loads through the softer upper soils into deeper, more competent soils. We anticipate that construction activities on the Capitol Campus will have noise and vibration limitations; therefore, we assume that drilled shafts will be the preferred deep foundation option for the LAH and Senate buildings. Drilled shafts involve drilling a hole to a specified depth, placing a rebar cage, and filling the hole with structural concrete. These construction methods greatly reduce the construction induced noise and vibration as compared to pile driving activities. Based on the subsurface conditions, we anticipate a temporary casing may be required to maintain the hole prior to concrete placement.

For predesign purposes, we assume the drilled shafts will extend to 100 feet below the ground surface. We anticipate that 2- or 4-foot-diameter drilled shafts could be sufficient to support the LAH and Senate buildings. For predesign purposes, we recommend the following ultimate axial resistances:

- LAH building
    - 2-foot-diameter drilled shaft: 350 to 600 kips
    - 4-foot-diameter drilled shaft: 1,000 to 1,400 kips
- Senate building
    - 2-foot-diameter drilled shaft: 500 to 700 kips
    - 4-foot-diameter drilled shaft: 1,100 to 1,400 kips

Note that the ultimate resistances provided above need to be reduced by a FS for use in design. Per the 2018 IBC Section 18.10.3.3.1, we recommend FS values of 2 and 3 for compression and uplift, respectively. For shafts designed using the provided resistances and FS values we anticipate that the drilled shafts will settle less than 1-inch due to structural loads. If additional shaft resistance is required, the shafts can be extended to depths greater than 100 feet.

The drilled shafts will reduce the building deformations both due to post-seismic settlement and seismic slope instability. The post-seismic settlement at depth could impart downdrag loads on the piles, we anticipate that the shaft settlement due to the additional downdrag loads would be less than 1 inch. However, this estimate will depend on the shaft size and the load applied to the top of the shaft and will need to be revaluated when additional information is available.

Drilled shaft supported building elements may be located using a minimum setback of 60 feet from the slope; provided the drilled shafts and foundation connections would be designed to accommodate the potential lateral slope forces and movements. Slope deformation would induce lateral loads on the shaft due to the soil as it moves around the shaft. The magnitude and location of the lateral loads would need to be estimated using more refined analysis methods performed as part of future studies. Alternatively, to reduce the required deep foundation lateral resistance, the building could be setback as discussed above in the Slope Stability section.

Slope Stability Mitigation

Given the location for the proposed LAH building, seismic slope stability is a concern and deep foundations would likely need to be designed for lateral seismic loads. Alternatives to increase the slope stability and reduce loads on the building foundations include:

- A large diameter secant pile wall along the building perimeter near the top of the slope. The secant pile wall may require tiebacks to resist static and seismic lateral slope forces.
- Building terraced walls on the slope consisting of tieback anchored walls

Vertical members for a secant pile wall consist of a series of successive drilled shafts that intersect the shafts previously placed on either side, forming a continuous wall. For secant pile walls, the drilling sequence typically involves drilling intermediate (non-structural) drilled shafts first and then the primary (structural) drilled shafts are drilled. Vertical reinforcement consisting of a reinforcing bar cage or steel sections are placed into predrilled structural drilled shaft holes and backfilled with concrete.

Depending on design criteria, tiebacks may be required to resist the lateral slope forces and properly retain the secant pile wall. The drilled shaft elements included in the secant pile wall may be 6-foot diameter or larger depending on the assumed height of the slope set down in front of the wall and required lateral resisting force. The tiebacks could assist in reducing the forces and moments on the wall; however, installation of the tiebacks would be challenging due to space limitations. In addition, the LAH building would likely be supported on deep foundations even if the secant pile wall was constructed. Supporting the LAH building on deep foundations could reduce the lateral loads applied on the secant pile wall and long-term slope settlement related impacts on the building. The length of the secant pile wall would be based on the required long-term static and seismic performance of the Pritchard building and LAH building and would be determined during future design phases when the wall design criteria are determined.

The selection of the potential mitigation measures should consider construction installation measures, limited work space between the existing Pritchard building to remain and the top of slope, required long-term Pritchard and LAH building performance, and environmental permitting and impacts.

RECOMMENDATIONS FOR FUTURE ANALYSES AND SUBSURFACE EXPLORATIONS

The recommendations provided in this report are for predesign purposes only. Our engineering analyses were based on existing subsurface information and preliminary site layouts and will need to be updated using additional subsurface explorations, laboratory testing, and engineering analyses. In addition, based on our understanding of the subsurface conditions and the seismic hazard at the site, a site-specific ground motion analysis is required per the 2018 IBC for final design. To facilitate the additional analyses, we recommend additional subsurface explorations and a laboratory testing program including soil borings with downhole geophysical testing and cone penetration test (CPT) explorations. The downhole geophysical testing is required to perform the site-specific ground motion analysis. The boring and CPT exploration program will provide additional subsurface information to refine the predesign geotechnical recommendations.

Based on our predesign engineering analyses, in our opinion the stability of the existing natural slope to the west of the site is a critical component of the building design. Conventional analysis methods are limited in their ability to evaluate the anticipated slope deformation and building performance during a seismic event. In our opinion more advanced numerical continuum modelling methods, such as a finite difference model implemented in FLAC (Itasca, 2020), could provide a direct estimate of the anticipated deformations and impacts to the proposed structures. A numerical continuum model can directly incorporate the effects of site response, alterations in slope geometry, and changes in soil strength characteristics due to earthquake loading, all of which are beyond the limits of conventional limit-equilibrium analyses.

CLOSURE

This report was prepared for the exclusive use of the Washington State Department of Enterprise Services and the design team for predesign evaluation of the LAH and Senate buildings to assist in siting and preliminary cost estimating. The recommendations provided in this report were provided for conceptual design only and were based on existing subsurface information. These recommendations will be superseded after layout has been selected and additional explorations, laboratory testing, and engineering analyses have been performed. We have prepared the document "Important Information About Your Geotechnical Report" to assist you and others in understanding the use and limitations of this report.

Thank you for retaining Shannon & Wilson to provide geotechnical services for the predesign phase of the State Legislative Campus Modernization project. We look forward to our continued relationship with you as the project progresses.

Sincerely,

SHANNON & WILSON

09/01/20

Robert Mitchell, PE
Vice President

AJB:RAM/ajb

Enc. References
Figure 1 – Vicinity Map
Figure 2 – Site and Existing Exploration Plan
Historic Boring Logs
Appendix A – Boring Log SW-1 and Laboratory Testing
Appendix B – Important Information About your Geotechnical / Geoenvironmental Report

SHANNON & WILSON

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SHANNON & WILSON

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Figure 1.xlsm 8/11/2020

Predesign Geotechnical Engineering Report
State Legislative Campus Modernization
Olympia, Washington

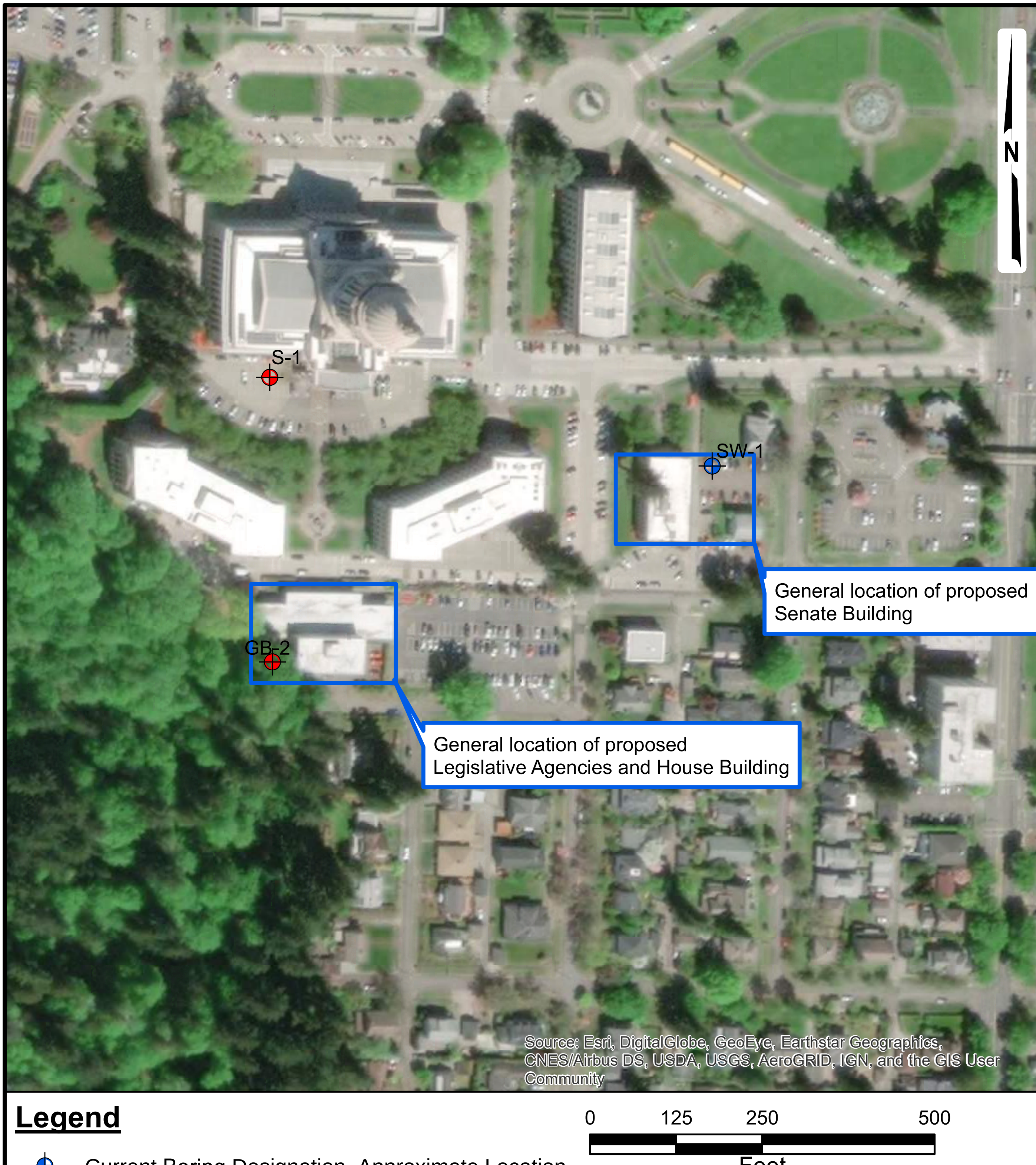
VICINITY MAP

August 2020 105564-001

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. 1

Note:
1. Map adopted from 1:24,000 USGS Topographic map of Tumwater, WA quadrangle, dated 2011, photorevised 2020.



Legend

- Current Boring Designation, Approximate Location
- Previous Boring Designation, Approximate Location

Predesign Geotechnical Engineering Report
State Legislative Campus Modernization
Olympia, Washington

SITE AND EXISTING SUBSURFACE EXPLORATION PLAN

August 2020 | 105564-001

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Figure 2

Unified Soil Classification System (USCS)

Criteria for Assigning Group Symbols and Names			Soil Classification Generalized Group Descriptions	
COARSE-GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retained on No. 4 Sieve	CLEAN GRAVELS Less than 5% fines	GW	Well-graded Gravels
			GP	Poorly-graded gravels
		GRAVELS WITH FINES More than 12% fines	GM	Gravel and Silt Mixtures
			GC	Gravel and Clay Mixtures
	SANDS 50% or more of coarse fraction passes No. 4 Sieve	CLEAN SANDS Less than 5% fines	SW	Well-graded Sand
			SP	Poorly-graded Sand
		SANDS WITH FINES More than 12% fines	SM	Silty Sand
			SC	Clayey Sand
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS Liquid limit less than 50	INORGANIC	CL	Low-plasticity Clays
			ML	Non-plastic and Low-Plasticity Silts
		ORGANIC	OL	Organic Silts and Clays, liquid limit less than 50
	SILTS AND CLAYS Liquid limit greater than 50	INORGANIC	CH	High-plasticity Clays
			MH	Elastic Silts
		ORGANIC	OH	Organic Silts and Clays, liquid limit greater than 50
HIGHLY ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT	Peat

Based on: ASTM D2487-06

Component Definitions by Gradation

Component	Size Range
Boulders	Above 12 in.
Cobbles	3 in. to 12 in.
Gravel	3 in. to No. 4 (4.76mm)
Coarse gravel	3 in. to 3/4 in.
Fine gravel	3/4 in. to No. 4 (4.76mm)
Sand	No. 4 (4.76mm) to No. 200 (0.074mm)
Coarse sand	No. 4 (4.76mm) to No. 10 (2.0mm)
Medium sand	No. 10 (2.0mm) to No. 40 (0.42mm)
Fine sand	No. 40 (0.42mm) to No. 200 (0.074mm)
Silt and Clay	Smaller than No. 200 (0.074mm)

Sample Types

Symbol	Description
SS	SPT Sampler (2.0" OD)
HD	Heavy Duty Split Spoon
SH	Shelby Tube
CA	California Sampler
B	Bulk
C	Cored
G	Grab
P	Pitcher Sampler

Laboratory Tests

Test	Designation
Moisture	(1)
Density	D
Grain Size	G
Hydrometer	H
Atterberg Limits	(1)
Consolidation	C
Unconfined	U
UU Triax	UU
CU Triax	CU
CD Triax	CD
Permeability	P

(1) Moisture and Atterberg Limits plotted on log.

Cohesionless Soils (a)		
Density	N, blows/ft.(c)	Relative Density (%)
Very loose	0 to 4	0 - 15
Loose	4 to 10	15 - 35
Compact	10 to 30	35 - 65
Dense	30 to 50	65 - 85
Very Dense	over 50	>85

Cohesive Soils(b)		
Consistency	N, blows/ft.(c)	Undrained Shear Strength (psf) (d)
Very soft	0 to 2	<250
Soft	2 to 4	250-500
Firm	4 to 8	500-1000
Stiff	8 to 15	1000-2000
Very Stiff	15 to 30	2000-4000
Hard	over 30	>4000

(a) Soils consisting of gravel, sand, and silt, either separately or in combination, possessing no characteristics of plasticity, and exhibiting drained behavior.
(b) Soils possessing the characteristics of plasticity, and exhibiting undrained behavior.
(c) Refer to text of ASTM D 1586-84 for a definition of N; in normally consolidated cohesionless soils. Relative Density terms are based on N values corrected for overburden pressures.
(d) Undrained shear strength = 1/2 unconfined compression strength.

Silt and Clay Descriptions

Description	Typical Unified Designation
Silt	ML (non-plastic)
Clayey Silt	CL-ML (low plasticity)
Silty Clay	CL
Clay	CH
Elastic Silt	MH
Organic Soils	OL, OH, Pt

Qualitative Descriptive Terminology for Moisture Content

Dry	No discernible moisture present
Damp	Enough moisture present to darken the appearance but no moisture on materials adheres to the hand
Moist	Will moisten the hand
Wet	Visible water present on materials

Descriptive Terminology Denoting Component Proportions

Descriptive Terms	Range of Proportion
Trace	0-5%
Little	5-12%
Some or Adjective (a)	12-30%
And	30-50%

(a) Use Gravelly, Sandy or Silty as appropriate.

SOIL CLASSIFICATION LEGEND

Golder Associates

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building

DRILLING METHOD: Mud Rotary
DRILLING DATE: 5/26&27/09
DRILL RIG: B-61 Truck-Mounted

DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91

ELEVATION: 133
INCLINATION: -90

BORING METHOD: 4-inch inner diameter mud rotary with 140 lbs auto hammer

DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N	REC / ATT	NOTES WATER LEVELS
0.0 - 1.5 Loose to compact, dark brown, non-stratified, silty fine to medium SAND, some organics, damp (SM) (TOPSOIL/FILL).	SM	131.5 / 1.5						Inclinometer set in flush-mount monument. Concrete used to set monutment.
1.5 - 4.5 Stiff, brown gray, heterogenous, sandy SILT, sand is fine to coarse, some fine to coarse gravel, iron-oxide stained pockets, trace organic fragments, moist (ML) (FILL) SIEVE	ML	128.5 / 4.5	1	SS	6-7-7	14	1.5/1.5	
4.5 - 7.0 Firm, gray, stratified, SILT, iron-oxide stained and fine to coarse sand layers, trace fine gravel, moist (ML) (VASHON RECESSIONAL DEPOSITS) ATTERBERG	ML	126.0 / 7.0	2	SS	2-4-3	7	1.5/1.5	
7.0 - 9.5 Firm/loose, brown gray, stratified, SILT and silty fine SAND, trace fine to coarse sand pockets, iron-oxide stained layers, trace fine gravel, damp to moist (ML/SM) (VASHON RECESSIONAL DEPOSITS) MOISTURE CONTENT	ML/SM	123.5 / 9.5	3	SS	2-4-4	8	1.5/1.5	
9.5 - 12.0 Loose, gray brown, stratified, silty fine to medium SAND, silt lenses, iron-oxide staining, moist (SM) (VASHON RECESSIONAL DEPOSITS)	SM	121.0 / 12.0	4	SS	2-3-6	9	1.0/1.5	
12.0 - 14.5 Stiff, red brown, stratified, SILT, some fine sand, iron-oxide stained layers, moist (ML) (VASHON RECESSIONAL DEPOSITS) SIEVE	ML	118.5 / 14.5	5	SS	2-5-5	10	1.3/1.5	
14.5 - 17.0 Very soft to soft, stratified, SILT, trace iron-oxide stained lenses, trace coarse sand, moist (ML) (VASHON RECESSIONAL DEPOSITS) ATTERBERG	ML	116.0 / 17.0	6	SS	2-1-1	2	1.5/1.5	
17.0 - 19.5 Loose to compact, gray brown, stratified, silty fine to medium SAND, trace silt layers less than 1/4-inch thick, iron-oxide stained layers near 17.5 ft, moist (SM) (VASHON RECESSIONAL DEPOSITS)	SM	113.5 / 19.5	7	SS	2-4-6	10	1.5/1.5	
	ML							

Log continued on next page

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham

LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

BOREHOLE RECORD 083-93287.300 BS MAY2009.GPJ GLDR_WA.GDT 12/17/09

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building

DRILLING METHOD: Mud Rotary
DRILLING DATE: 5/26&27/09
DRILL RIG: B-61 Truck-Mounted

DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91

ELEVATION: 133
INCLINATION: -90

BORING METHOD: 4-inch inner diameter mud rotary with 140 lbs auto hammer

DEPTH (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N	REC / ATT
20	19.5 - 22.0 Firm, gray brown, stratified, SILT, trace silt layers less than 1/4-inch thick, iron-oxide stained layers near 20 ft, moist (ML) (VASHON RECESSIONAL DEPOSITS) 20-ATTERBERG *(Continued)*	ML		8	SS	1-3-5	8	1.5/1.5
	22.0 - 27.0 Loose to compact, brown gray, slightly stratified, sandy SILT, sand is fine to medium, trace iron-oxide stained partings, moist (ML) (VASHON RECESSIONAL DEPOSITS) #200 WASH	ML	111.0 / 22.0	9	SS	4-4-6	10	1.5/1.5
25				10	SS	4-5-4	9	1.5/1.5
	27.0 - 32.0 Compact, brown gray, slightly stratified, fine to medium SAND, little silt, iron-oxide stained layers, dark brown organic layers, damp to moist (SP-SM) (VASHON RECESSIONAL DEPOSITS) MOISTURE CONTENT	SP-SM	106.0 / 27.0	11	SS	4-9-9	18	1.5/1.5
30				12	SS	11-13-12	25	1.2/1.5
	32.0 - 38.5 Firm to stiff, gray brown, stratified, SILT, little fine sand, moist (ML) (VASHON RECESSIONAL DEPOSITS) 32.5-#200 WASH 35- ATTERBERG	ML	101.0 / 32.0	13	SS	6-6-6	12	1.5/1.5
35				14	SS	2-3-5	8	1.5/1.5
				15	SS	2-4-9	13	1.5/1.5
	38.5 - 39.5 Stiff, light gray, stratified, SILT, trace fine sand, trace iron-oxide stained hard silt layers up to 1/4-inch thick, moist (ML) ~~(VASHON RECESSIONAL DEPOSITS)~~	ML	94.5 / 38.5					
40		SM	93.5 / 39.5					

PENETRATION RESISTANCE BLOWS / ft ■ (10, 20, 30, 40)
WATER CONTENT (PERCENT) W_p —○W— W_l (20, 40, 60, 80)

NOTES WATER LEVELS GRAPHIC

Log continued on next page

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham

LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building

DRILLING METHOD: Mud Rotary
DRILLING DATE: 5/26&27/09
DRILL RIG: B-61 Truck-Mounted

DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91

ELEVATION: 133
INCLINATION: -90

DEPTH (ft)	BORING METHOD	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N	REC / ATT	NOTES / WATER LEVELS / GRAPHIC
40	4-inch inner diameter mud rotary with 140 lbs auto hammer	39.5 - 56.0 Compact, brown gray, slightly stratified, silty fine SAND, trace iron-oxide stained layers, moist (SM) (VASHON RECESSIONAL DEPOSITS) 42.5- MOISTURE CONTENT 47.5- SIEVE *(Continued)*			16	SS	5-9-12	21	1.5/1.5	
					17	SS	10-11-14	25	1.5/1.5	
45			SM		18	SS	10-12-13	25	1.5/1.5	
50										Vibrating Wire Piezometer set 50 ft bgs in grout. 2.75-inch diameter solid PVC inclinometer pipe embedded in grout.
		-1-inch thick clayey silt layer with trace fine to coarse gravel, socketed.			19	SS	12-13-15	28	1.5/1.5	
55				77.0 / 56.0						
		56.0 - 61.0 Hard, brown gray, stratified, SILT, silty fine to medium sand layers 1 to 3 inches thick, iron-oxide stained layers, moist (ML) (VASHON RECESSIONAL DEPOSITS)	ML		20	SS	5-12-28	40	1.5/1.5	
60										

PENETRATION RESISTANCE BLOWS / ft ■ (10 20 30 40); WATER CONTENT (PERCENT) W_p —○W— W_l (20 40 60 80)

Log continued on next page

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham

LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building

DRILLING METHOD: Mud Rotary
DRILLING DATE: 5/26&27/09
DRILL RIG: B-61 Truck-Mounted

DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91

ELEVATION: 133
INCLINATION: -90

BORING METHOD: 4-inch inner diameter mud rotary with 140 lbs auto hammer

DEPTH (ft)	DESCRIPTION	USCS	ELEV. / DEPTH (ft)	NUMBER	TYPE	BLOWS per 6 in (140 lb hammer, 30 inch drop)	N	REC / ATT
60		ML	72.0					
	61.0 - 71.0 Very stiff to hard, brown gray, slightly stratified, SILT, little fine sand, clayey silt layers, moist (ML) (VASHON RECESSIONAL DEPOSITS) 67.5- MOISTURE CONTENT	ML	61.0					
				21	SS	15-19-22	41	1.5/1.5
65								
				22	SS	9-13-13	26	1.5/1.5
70			62.0					
	71.0 - 77.5 Very stiff, brown gray, stratified, SILT, little fine sand, iron-oxide staining layers up to 1/4-inch thick, moist (ML) (VASHON RECESSIONAL DEPOSITS)	ML	71.0					
				23	SS	8-12-16	28	1.5/1.5
75			55.5					
	77.5 - 79.0 No recovery.		77.5	24	SS	6-8-11	19	0.0/1.5
		ML	54.0 / 79.0					
80								

PENETRATION RESISTANCE BLOWS / ft ■ (10, 20, 30, 40); WATER CONTENT (PERCENT) W_p —○W— W_l (20, 40, 60, 80)

NOTES WATER LEVELS GRAPHIC

Log continued on next page

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham

LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building
DRILLING METHOD: Mud Rotary
DRILLING DATE: 5/26&27/09
DRILL RIG: B-61 Truck-Mounted
DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91
ELEVATION: 133
INCLINATION: -90

BORING METHOD: 4-inch inner diameter mud rotary with 140 lbs auto hammer

DEPTH (ft)	SOIL PROFILE: DESCRIPTION	USCS	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	BLOWS per 6 in (140 lb hammer 30 inch drop)	N	REC / ATT
80	79.0 - 91.0 Firm to very stiff, medium gray, stratified, SILT, little fine sand, iron-oxide staining layers up to 1/4-inch thick, moist (ML) (VASHON RECESSIONAL DEPOSITS) 82.5- MOISTURE CONTENT 87.5- ATTERBERG *(Continued)*	ML		24c	SS	3-4-4	8	1.5/1.5
				25	SS	2-4-8	12	1.5/1.5
85	-Became olive gray in color.			26	SS	0-7-15	22	1.5/1.5
90	91.0 - 96.0 Dense, green gray, stratified, fine to medium SAND, little silt, moist (SP-SM) (PRE-VASHON DEPOSITS)	SP-SM	42.0 / 91.0	27	SS	15-17-22	39	0.8/1.5
95	96.0 - 101.0 Very dense, green gray, stratified, fine to coarse SAND, little silt, trace fine gravel, moist (SP-SM) (PRE-VASHON DEPOSITS)	SP-SM	37.0 / 96.0	28	SS	27-30-30	>50	1.5/1.5
100								

PENETRATION RESISTANCE BLOWS / ft ■ (10, 20, 30, 40); WATER CONTENT (PERCENT) W_p —○W— W_l (20, 40, 60, 80)

NOTES WATER LEVELS GRAPHIC

Log continued on next page

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham
LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

RECORD OF BOREHOLE GB-2

PROJECT: WAGA/Hillside Evaluation
PROJECT NUMBER: 083-93287.300
LOCATION: Pritchard Building

DRILLING METHOD: Mud Rotary
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DATUM: Local
AZIMUTH: N/A
COORDINATES: N: 47.04 E: 122.91

ELEVATION: 133
INCLINATION: -90

DEPTH (ft)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: NUMBER	TYPE	BLOWS per 6 in (140 lb hammer, 30 inch drop)	N	REC / ATT	PENETRATION RESISTANCE BLOWS / ft (10 20 30 40) / WATER CONTENT (PERCENT) W_p — W — W_l (20 40 60 80)	NOTES WATER LEVELS GRAPHIC
100		96.0 - 101.0 Very dense, green gray, stratified, fine to coarse SAND, little silt, trace fine gravel, moist (SP-SM) (PRE-VASHON DEPOSITS) *(Continued)*	SP-SM		32.0 / 101.0							
		101.0 - 104.0 Very dense, orange brown gray to gray, slightly stratified, fine to medium SAND, some fine gravel, socketing, moist (SM) (PRE-VASHON DEPOSITS)	SM		29.0 / 104.0	29	SS	30-32-50	>50	1.5 / 1.5	>>	Grout backfill.
		Boring completed at 104.0 ft.										
105												
110												
115												
120												

1 in to 3 ft
DRILLING CONTRACTOR: Holocene Drilling
DRILLER: Matt Graham

LOGGED: A. Dennison
CHECKED: D. Ladd
DATE: 8/3/2009

Golder Associates

Shannon & Wilson, Inc. (S&W), uses a soil classification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following page. Soil descriptions are based on visual-manual procedures (ASTM D 2488-93) unless otherwise noted.

S&W CLASSIFICATION OF SOIL CONSTITUENTS

- MAJOR constituents compose more than 50 percent, by weight, of the soil. Major constituents are capitalized (SAND).
- Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (slightly silty SAND).
- Trace constituents compose 0 to 5 percent of the soil (slightly silty SAND, trace of gravel).

MOISTURE CONTENT DEFINITIONS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

ABBREVIATIONS

ATD	At Time of Drilling
Elev.	Elevation
ft	feet
HSA	Hollow Stem Auger
ID	Inside Diameter
in	inches
lbs	pounds
Mon.	Monument cover
N	Blows for last two 6-inch increments
NA	Not Applicable or Not Available
OD	Outside Diameter
OVA	Organic Vapor Analyzer
PID	Photoionization Detector
ppm	parts per million
PVC	Polyvinyl Chloride
SS	Split Spoon sampler
SPT	Standard Penetration Test
USC	Unified Soil Classification
WLI	Water Level Indicator

GRAIN SIZE DEFINITIONS

DESCRIPTION	SIEVE SIZE
FINES	< #200 (0.8 mm)
SAND*	
• Fine	#200 - #40 (0.4 mm)
• Medium	#40 - #10 (2 mm)
• Coarse	#10 - #4 (5 mm)
GRAVEL*	
• Fine	#4 - $\frac{3}{4}$ inch
• Coarse	$\frac{3}{4}$ - 3 inches
COBBLES	3 - 12 inches
BOULDERS	> 12 inches

* Unless otherwise noted, sand and gravel, when present, range from fine to coarse in grain size.

RELATIVE DENSITY / CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED/COHESIVE SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
0 - 4	Very loose	<2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
Over 50	Very dense	15 - 30	Very stiff
		Over 30	Hard

WELL AND OTHER SYMBOLS

Cement/Concrete	Asphalt or PVC Cap
Bentonite Grout	Cobbles
Bentonite Seal	Fill
Slough	Ash
Silica Sand	Bedrock
2" I.D. PVC Screen (0.020-inch Slot)	Gravel

Seismic Ground Motion Study
Washington State Legislative Building
Olympia, Washington

SOIL CLASSIFICATION AND LOG KEY

September 2001 21-1-09343-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 1 of 2

File: I:\Drafting\211\09343-002\21-1-09343-002 Fig a-1.dwg Date: 09-11-2001 Author: cnk

UNIFIED SOIL CLASSIFICATION SYSTEM
(From ASTM D 2488-93 & 2487-93)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL ②	TYPICAL DESCRIPTION
Coarse-Grained Soils *(more than 50% retained on No. 200 sieve)* [*use Dual Symbols for 5 - 12% Fines (i.e. GP-GM)*] ①	Gravels *(more than 50% of coarse fraction retained on No. 4 sieve)*	Clean Gravels ① *(less than 5% fines)*	GW	Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP	Poorly Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		Gravels with ① Fines *(more than 12% fines)*	GM	Silty Gravels, Gravel-Sand-Silt Mixtures
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures
	Sands *(50% or more of coarse fraction passes the No. 4 sieve)*	Clean sands ① *(less than 5% fines)*	SW	Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP	Poorly Graded Sand, Gravelly Sands, Little or No Fines
		Sands with ① Fines *(more than 12% fines)*	SM	Silty Sands, Sand-Silt Mixtures
			SC	Clayey Sands, Sand-Silt Mixtures
Fine-Grained Soils *(50% or more passes the No. 200 sieve)*	Silts and Clays *(liquid limit less than 50)*	Inorganic	ML	Inorganic Silts of Low to Medium Plasticity, Rock Flour, or Clayey Silts With Slight Plasticity
			CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
		Organic	OL	Organic Silts and Organic Silty Clays of Low Plasticity
	Silts and Clays *(liquid limit 50 or more)*	Inorganic	CH	Inorganic Clays of Medium to High Plasticity, Sandy Fat Clay, Gravelly Fat Clay
			MH	Inorganic Silts, Micaceous or Diatomaceous Fine Sands or Silty Soils, Elastic Silt
		Organic	OH	Organic Clays of Medium to High Plasticity, Organic Silts
Highly Organic Soils	Primarily organic matter, dark in color, and organic odor		PT	Peat, Humus, Swamp Soils with High Organic Content (See D 4427-92)

KEY TO GEOLOGIC UNITS

Hf	Holocene Fill
Qvrl	Quaternary Vashon Recessional Lacustrine
Qvro	Quaternary Vashon Recessional Outwash
Qpnl	Quaternary Pre-Vashon Non-Glacial Lacustrine
Qpnf	Quaternary Pre-Vashon Non-Glacial Fluvial
Qpgo	Quaternary Pre-Vashon Glacial Outwash
Qpgt	Quaternary Pre-Vashon Glacial Till

NOTES

1. Dual Symbols (symbols separated by a hyphen, i.e., SP-SM, slightly silty fine SAND) are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.

2. Borderline symbols (symbols separated by a slash, i.e., CL/ML, silty CLAY/clayey SILT; GW/SW, sandy GRAVEL/gravelly SAND) indicate that the soil may fall into one of two possible basic groups.

Seismic Ground Motion Study
Washington State Legislative Building
Olympia, Washington

SOIL CLASSIFICATION AND LOG KEY

September 2001 21-1-09343-002

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 2 of 2

SOIL DESCRIPTION Surface elevation: Approx. 113.5 Ft.	Depth (ft)	Symbol	Samples	Ground Water
CONCRETE	0.6			
Medium dense, light gray and brown, mottled, slightly clayey, fine sandy SILT; moist; scattered iron oxide-stained lenses; (Hf) ML.	3.5		1	
Medium dense, brown, slightly fine sandy SILT; moist; abundant iron oxide-stained lenses and partings, abundant slightly clayey silt seams; (Qvrl) ML.	12.0		2, 3, 4	
Stiff, light brown to reddish-brown, clayey SILT; wet; bedded, abundant iron oxide-stained seams, scattered organic fragments; (Qvrl) ML.	19.5		5, 6, 7	
Interbedded, very stiff, brown, clayey SILT and medium dense, fine sandy SILT; moist; (Qvrl) ML.	22.5		8	
Medium dense, brown, fine sandy SILT; moist to wet; locally trace of clay, massive to laminated, scattered fine organic fragments; (Qvrl) ML. - lens of brown to gray, blocky, high plasticity, silty clay from 30.8 to 31.1 feet	39.0		9, 10, 11	
Dense, brown, fine to medium SAND; moist; (Qvro) SP.	41.0		12	
Dense, brown, slightly fine sandy SILT; moist; massive; (Qvrl) ML.	44.5			
Very stiff to stiff, brown to gray, clayey SILT, trace of fine sand; wet; massive, scattered silt lenses; (Qvrl) ML.	52.0		13, 14	
Very dense, brown, fine sandy SILT; moist; massive, trace of clay; (Qpnl) ML.	58.0		15	

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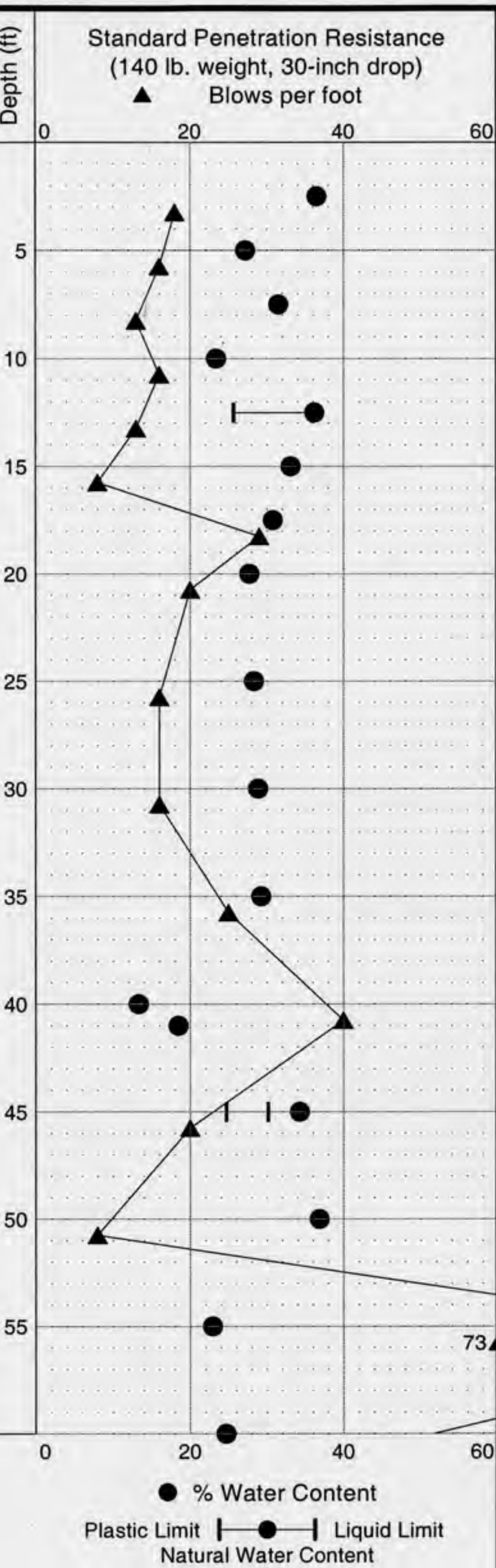

LEGEND

* Sample Not Recovered
2-inch O.D. Split Spoon Sample
3-inch O.D. Shelby Tube Sample
Ground Water Level ATD

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.
5. USCS designation is based on visual-manual classification and selected laboratory index testing.

Seismic Ground Motion Study
Washington State Legislative Building
Olympia, Washington

LOG OF BORING S-1

September 2001 21-1-09343-002

SHANNON & WILSON, INC.
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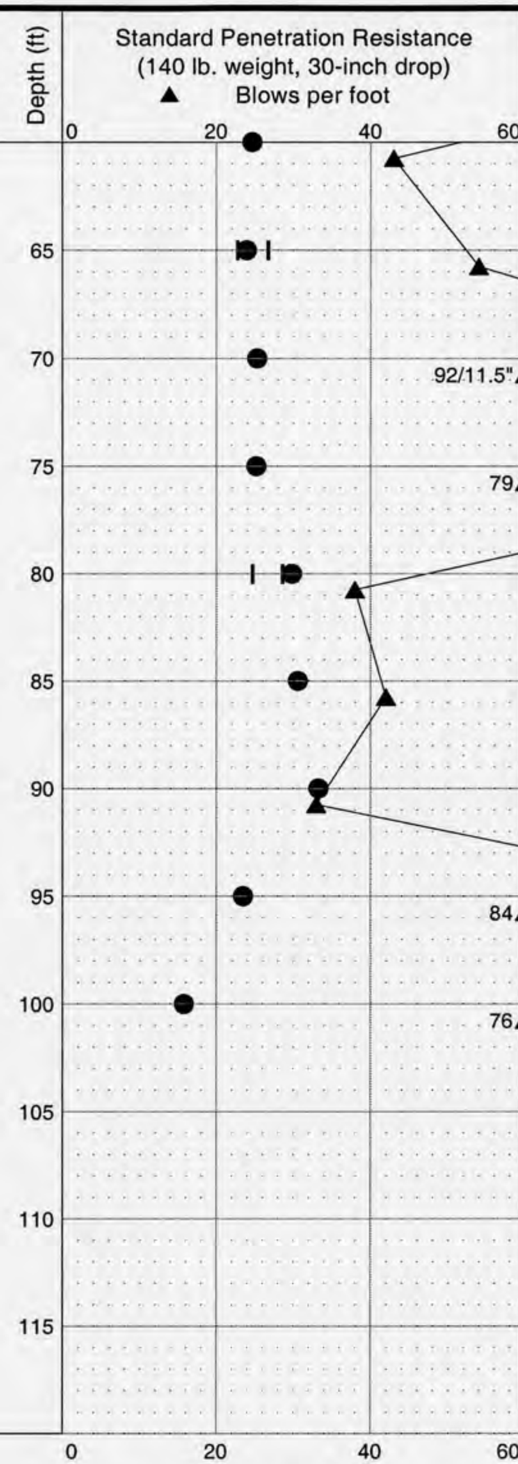
FIG. A-3
Sheet 1 of 2

MASTER_LOG 21-09343.GPJ SHAN_WIL.GDT 9/11/01 Log: JER Rev: WDN Typ: MGI

SOIL DESCRIPTION Surface elevation: Approx. 113.5 Ft.	Depth (ft)	Symbol	Samples	Ground Water
Dense to very dense, brown SILT, trace of fine sand; moist; massive, abundant iron oxide staining, abundant fine organic fragments, locally trace of clay at bottom; (Qpnl) ML.			16, 17, 18	
Hard, gray, clayey SILT, trace of fine sand; moist to wet; massive, abundant fine organic fragments; (Qpnl) ML.	73.0		19, 20, 21, 22	
Very dense, gray, silty fine SAND; moist; scattered clayey silt pockets, abundant wood debris, massive; (Qpnf) SM.	94.0		23	
Very dense, gray, silty, gravelly SAND, trace of clay; moist; massive; (Qpgt) SM.	98.0		24	
BOTTOM OF BORING COMPLETED ON 04/29/2001	101.5			



LEGEND

* Sample Not Recovered

2-inch O.D. Split Spoon Sample

3-inch O.D. Shelby Tube Sample

Ground Water Level ATD

● % Water Content

Plastic Limit ├──●──┤ Liquid Limit

Natural Water Content

NOTES

1. The stratification lines represent the approximate boundaries between soil types, and the transition may be gradual.
2. The discussion in the text of this report is necessary for a proper understanding of the nature of the subsurface materials.
3. Groundwater level, if indicated above, is for the date specified and may vary.
4. Refer to KEY for explanation of "Symbols" and definitions.
5. USCS designation is based on visual-manual classification and selected laboratory index testing.

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LOG OF BORING S-1

September 2001 21-1-09343-002

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FIG. A-3
Sheet 2 of 2

MASTER_LOG 21-09343.GPJ SHAN_WIL.GDT 9/11/01 Log: JER Rev: WDN Typ: MGI

Appendix A

Boring Log SW-1 and Laboratory Testing

APPENDIX A

Shannon & Wilson, Inc. (S&W), uses a soil identification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following pages. Soil descriptions are based on visual-manual procedures (ASTM D2488) and laboratory testing procedures (ASTM D2487), if performed.

S&W INORGANIC SOIL CONSTITUENT DEFINITIONS

CONSTITUENT[2]	FINE-GRAINED SOILS (50% or more fines)[1]	COARSE-GRAINED SOILS (less than 50% fines)[1]
Major	***Silt, Lean Clay, Elastic Silt,*** or ***Fat Clay***[3]	***Sand*** or ***Gravel***[4]
Modifying (Secondary) Precedes major constituent	30% or more coarse-grained: ***Sandy*** or ***Gravelly***[4]	More than 12% fine-grained: ***Silty*** or ***Clayey***[3]
Minor Follows major constituent	15% to 30% coarse-grained: ***with Sand*** or ***with Gravel***[4]	5% to 12% fine-grained: ***with Silt*** or ***with Clay***[3]
	30% or more total coarse-grained *and* lesser coarse-grained constituent is 15% or more: ***with Sand*** or ***with Gravel***[5]	15% or more of a second coarse-grained constituent: ***with Sand*** or ***with Gravel***[5]

[1]All percentages are by weight of total specimen passing a 3-inch sieve.
[2]The order of terms is: *Modifying Major with Minor*.
[3]Determined based on behavior.
[4]Determined based on which constituent comprises a larger percentage.
[5]Whichever is the lesser constituent.

MOISTURE CONTENT TERMS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

STANDARD PENETRATION TEST (SPT) SPECIFICATIONS

Hammer:	140 pounds with a 30-inch free fall. Rope on 6- to 10-inch-diam. cathead 2-1/4 rope turns, > 100 rpm NOTE: If automatic hammers are used, blow counts shown on boring logs should be adjusted to account for efficiency of hammer.
Sampler:	10 to 30 inches long Shoe I.D. = 1.375 inches Barrel I.D. = 1.5 inches Barrel O.D. = 2 inches
N-Value:	Sum blow counts for second and third 6-inch increments. Refusal: 50 blows for 6 inches or less; 10 blows for 0 inches.

NOTE: Penetration resistances (N-values) shown on boring logs are as recorded in the field and have not been corrected for hammer efficiency, overburden, or other factors.

PARTICLE SIZE DEFINITIONS

DESCRIPTION	SIEVE NUMBER AND/OR APPROXIMATE SIZE
FINES	< #200 (0.075 mm = 0.003 in.)
SAND	
Fine	#200 to #40 (0.075 to 0.4 mm; 0.003 to 0.02 in.)
Medium	#40 to #10 (0.4 to 2 mm; 0.02 to 0.08 in.)
Coarse	#10 to #4 (2 to 4.75 mm; 0.08 to 0.187 in.)
GRAVEL	
Fine	#4 to 3/4 in. (4.75 to 19 mm; 0.187 to 0.75 in.)
Coarse	3/4 to 3 in. (19 to 76 mm)
COBBLES	3 to 12 in. (76 to 305 mm)
BOULDERS	> 12 in. (305 mm)

RELATIVE DENSITY / CONSISTENCY

COHESIONLESS SOILS		COHESIVE SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
< 4	Very loose	< 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
> 50	Very dense	15 - 30	Very stiff
		> 30	Hard

WELL AND BACKFILL SYMBOLS

Bentonite Cement Grout	Surface Cement Seal
Bentonite Grout	Asphalt or Cap
Bentonite Chips	Slough
Silica Sand	Inclinometer or Non-perforated Casing
Perforated or Screened Casing	Vibrating Wire Piezometer

PERCENTAGES TERMS [1, 2]

Trace	< 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

[1]Gravel, sand, and fines estimated by mass. Other constituents, such as organics, cobbles, and boulders, estimated by volume.

[2]Reprinted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

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SOIL DESCRIPTION AND LOG KEY

September 2020 105564-001

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FIG. A-1
Sheet 1 of 3

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(Modified From USACE Tech Memo 3-357, ASTM D2487, and ASTM D2488)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL	TYPICAL IDENTIFICATIONS
COARSE-GRAINED SOILS *(more than 50% retained on No. 200 sieve)*	Gravels *(more than 50% of coarse fraction retained on No. 4 sieve)*	Gravel *(less than 5% fines)*	GW	Well-Graded Gravel; Well-Graded Gravel with Sand
			GP	Poorly Graded Gravel; Poorly Graded Gravel with Sand
		Silty or Clayey Gravel *(more than 12% fines)*	GM	Silty Gravel; Silty Gravel with Sand
			GC	Clayey Gravel; Clayey Gravel with Sand
	Sands *(50% or more of coarse fraction passes the No. 4 sieve)*	Sand *(less than 5% fines)*	SW	Well-Graded Sand; Well-Graded Sand with Gravel
			SP	Poorly Graded Sand; Poorly Graded Sand with Gravel
		Silty or Clayey Sand *(more than 12% fines)*	SM	Silty Sand; Silty Sand with Gravel
			SC	Clayey Sand; Clayey Sand with Gravel
FINE-GRAINED SOILS *(50% or more passes the No. 200 sieve)*	Silts and Clays *(liquid limit less than 50)*	Inorganic	ML	Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt
			CL	Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay
		Organic	OL	Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
	Silts and Clays *(liquid limit 50 or more)*	Inorganic	MH	Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Silt
			CH	Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay
		Organic	OH	Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT	Peat or other highly organic soils (see ASTM D4427)

NOTE: No. 4 size = 4.75 mm = 0.187 in.; No. 200 size = 0.075 mm = 0.003 in.

IGNEOUS ROCK

SEDIMENTARY ROCK

METAMORPHIC ROCK

NOTES

1. Dual symbols *(symbols separated by a hyphen, i.e., SP-SM, Sand with Silt)* are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart. Graphics shown on the logs for these soil types are a combination of the two graphic symbols (e.g., SP and SM).

2. Borderline symbols *(symbols separated by a slash, i.e., CL/ML, Lean Clay to Silt; SP-SM/SM, Sand with Silt to Silty Sand)* indicate that the soil properties are close to the defining boundary between two groups.

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SOIL DESCRIPTION AND LOG KEY

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FIG. A-1
Sheet 2 of 3

SOIL_CLASS_KEY_PG2 P2E.GPJ SHAN_WIL.GDT 8/14/19

GRADATION TERMS

Poorly Graded	Narrow range of grain sizes present or, within the range of grain sizes present, one or more sizes are missing (Gap Graded). Meets criteria in ASTM D2487, if tested.
Well-Graded	Full range and even distribution of grain sizes present. Meets criteria in ASTM D2487, if tested.

CEMENTATION TERMS[1]

Weak	Crumbles or breaks with handling or slight finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

PLASTICITY[2]

DESCRIPTION	VISUAL-MANUAL CRITERIA	APPROX. PLASTICITY INDEX RANGE
Nonplastic	A 1/8-in. thread cannot be rolled at any water content.	< 4
Low	A thread can barely be rolled and a lump cannot be formed when drier than the plastic limit.	4 to 10
Medium	A thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. A lump crumbles when drier than the plastic limit.	10 to 20
High	It takes considerable time rolling and kneading to reach the plastic limit. A thread can be rerolled several times after reaching the plastic limit. A lump can be formed without crumbling when drier than the plastic limit.	> 20

ADDITIONAL TERMS

Mottled	Irregular patches of different colors.
Bioturbated	Soil disturbance or mixing by plants or animals.
Diamict	Nonsorted sediment; sand and gravel in silt and/or clay matrix.
Cuttings	Material brought to surface by drilling.
Slough	Material that caved from sides of borehole.
Sheared	Disturbed texture, mix of strengths.

PARTICLE ANGULARITY AND SHAPE TERMS[1]

Angular	Sharp edges and unpolished planar surfaces.
Subangular	Similar to angular, but with rounded edges.
Subrounded	Nearly planar sides with well-rounded edges.
Rounded	Smoothly curved sides with no edges.
Flat	Width/thickness ratio > 3.
Elongated	Length/width ratio > 3.

[1]Reprinted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

[2]Adapted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

ACRONYMS AND ABBREVIATIONS

ATD	At Time of Drilling
Diam.	Diameter
Elev.	Elevation
ft.	Feet
FeO	Iron Oxide
gal.	Gallons
Horiz.	Horizontal
HSA	Hollow Stem Auger
I.D.	Inside Diameter
in.	Inches
lbs.	Pounds
MgO	Magnesium Oxide
mm	Millimeter
MnO	Manganese Oxide
NA	Not Applicable or Not Available
NP	Nonplastic
O.D.	Outside Diameter
OW	Observation Well
pcf	Pounds per Cubic Foot
PID	Photo-Ionization Detector
PMT	Pressuremeter Test
ppm	Parts per Million
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
rpm	Rotations per Minute
SPT	Standard Penetration Test
USCS	Unified Soil Classification System
q_u	Unconfined Compressive Strength
VWP	Vibrating Wire Piezometer
Vert.	Vertical
WOH	Weight of Hammer
WOR	Weight of Rods
Wt.	Weight

STRUCTURE TERMS[1]

Interbedded	Alternating layers of varying material or color with layers at least 1/4-inch thick; singular: bed.
Laminated	Alternating layers of varying material or color with layers less than 1/4-inch thick; singular: lamination.
Fissured	Breaks along definite planes or fractures with little resistance.
Slickensided	Fracture planes appear polished or glossy; sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps that resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay.
Homogeneous	Same color and appearance throughout.

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SOIL DESCRIPTION AND LOG KEY

September 2020 105564-001

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FIG. A-1
Sheet 3 of 3

Total Depth:	101.5 ft.	Latitude:		Drilling Method:	Mud Rotary
Top Elevation:	~	Longitude:		Drilling Company:	Holt Services
Vert. Datum:		Station:		Drill Rig Equipment:	Mobile Drill Track
Horiz. Datum:		Offset:		Other Comments:	

Hole Diam.:	5 in.
Rod Diam.:	NWJ
Hammer Type:	Automatic

SOIL DESCRIPTION

Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Soil Description	Depth, ft.
Crushed *Gravel* (*GP*).	0.6
Loose to medium dense, brown *Silt (ML)*; moist; few fine sand; low plasticity; trace dark brown organics and organic seams; strong iron oxide locally.	7.0
Medium dense, brown, *Silty Sand (SM)*; moist; fine sand; low plasticity to nonplastic; silt seam with organics at about 9 feet.	10.5
Medium stiff, brown *Silt (ML)* grading to *Lean Clay (CL)*; moist; few fine sand; low to medium plasticity; trace organics.	12.7
Loose to medium dense, brown, interbedded, *Sandy Silt (ML), Silt (ML)*, and *Silty Sand (SM)*; moist; fine sand; nonplastic to medium plasticity; 4-inch lean clay at about 15 feet.	20.0
Loose, brown *Silt (ML)* to *Silt with Sand (ML)*; moist; fine sand; low plasticity to nonplastic; laminated; 1-inch fine silty sand at 20 feet; 3-inch lean clay at 25 feet.	25.2
Medium dense, brown, *Silty Sand (SM)*; moist; fine sand; nonplastic; few low to medium plasticity seams; strong iron oxide at 25 feet.	28.0
Loose to medium dense, brown *Silt (ML)*; moist; fine sand; low plasticity to nonplastic; interbedded, faint iron oxide staining at 36.2 feet; few fine sand seams.	38.0
Medium dense *Silt (ML)*; moist; trace to few fine sand; low plasticity	

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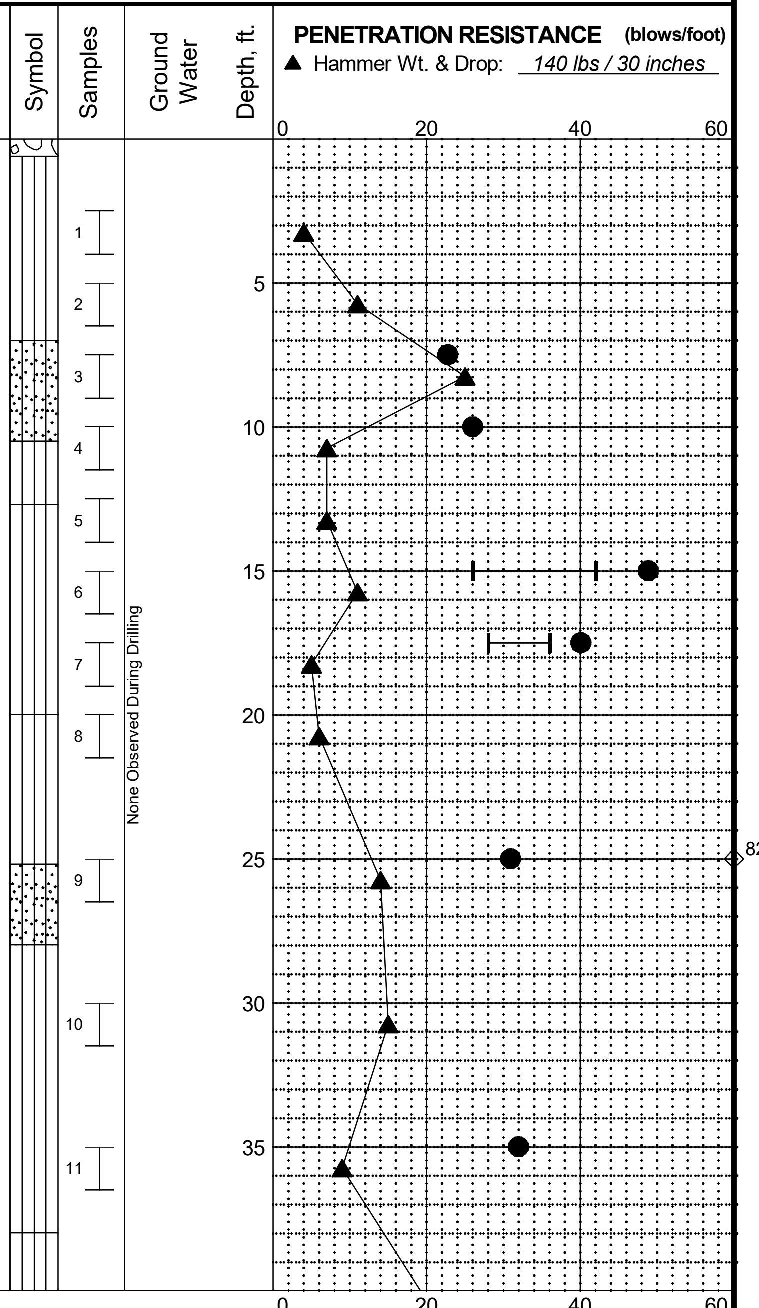

LEGEND

* Sample Not Recovered

2.0" O.D. Split Spoon Sample

◇ % Fines (<0.075mm)

● % Water Content

Plastic Limit ├─●─┤ Liquid Limit

Natural Water Content

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF BORING SW-1

September 2020 105564-001

SHANNON & WILSON, INC.
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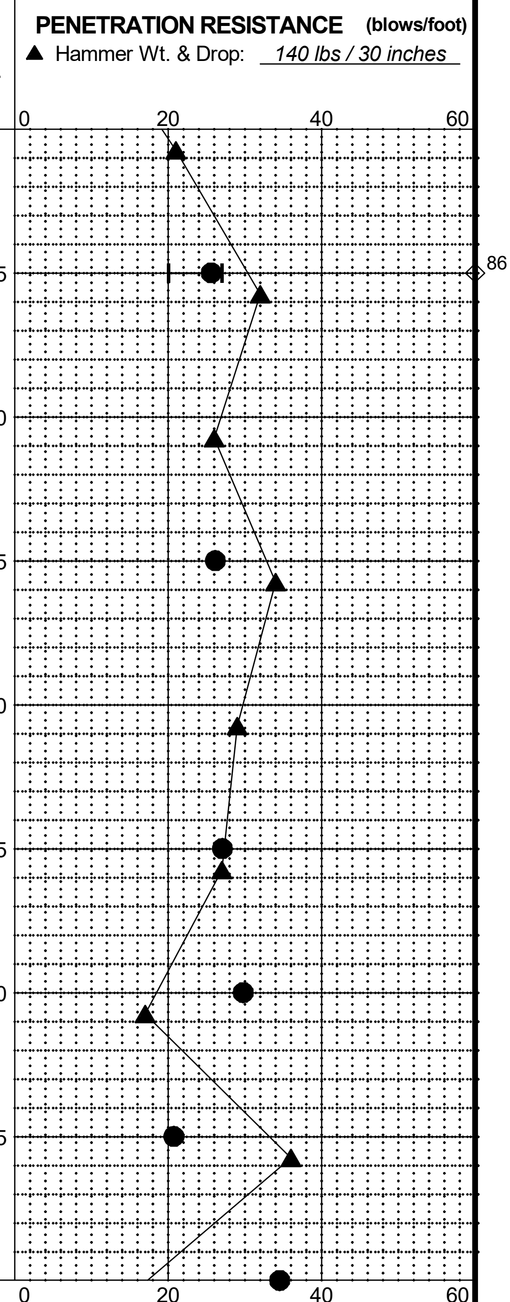
FIG. A-2
Sheet 1 of 3

REV 3

Total Depth:	101.5 ft.	Latitude:		Drilling Method:	Mud Rotary	Hole Diam.:	5 in.
Top Elevation:	~	Longitude:		Drilling Company:	Holt Services	Rod Diam.:	NWJ
Vert. Datum:		Station:		Drill Rig Equipment:	Mobile Drill Track	Hammer Type:	Automatic
Horiz. Datum:		Offset:		Other Comments:			

SOIL DESCRIPTION *Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.*	Depth, ft.	Samples
		12
Dense *Silty Clay (CL-ML)*; moist; trace fine, subrounded gravel; few fine sand; low plasticity; laminated silt and few sand from 45 to 45.5 feet; strong iron oxide staining at 45.5 feet.	43.0	13
Medium dense to dense, brown, interbedded, *Sandy Silt (ML), Silt (ML)*, and *Silty Sand (SM)*; fine sand; nonplastic to low plasticity; laminated locally; iron oxide staining locally; transitions to gray at 70.5 feet.	48.0	14, 15, 16, 17, 18
Dense, gray, *Silty Sand (SM)*; moist; fine sand; nonplastic.	71.5	19

CONTINUED NEXT SHEET



◇ % Fines (<0.075mm)
● % Water Content
Plastic Limit ⊢●⊣ Liquid Limit
Natural Water Content

LEGEND
* Sample Not Recovered
⌶ 2.0" O.D. Split Spoon Sample

NOTES
1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
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LOG OF BORING SW-1

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FIG. A-2
Sheet 2 of 3

REV 3

Log: SAW Rev: AJB Typ: LKN

MASTER_LOG_E_MC 105564.GPJ SHAN_WIL.GDT 9/1/20

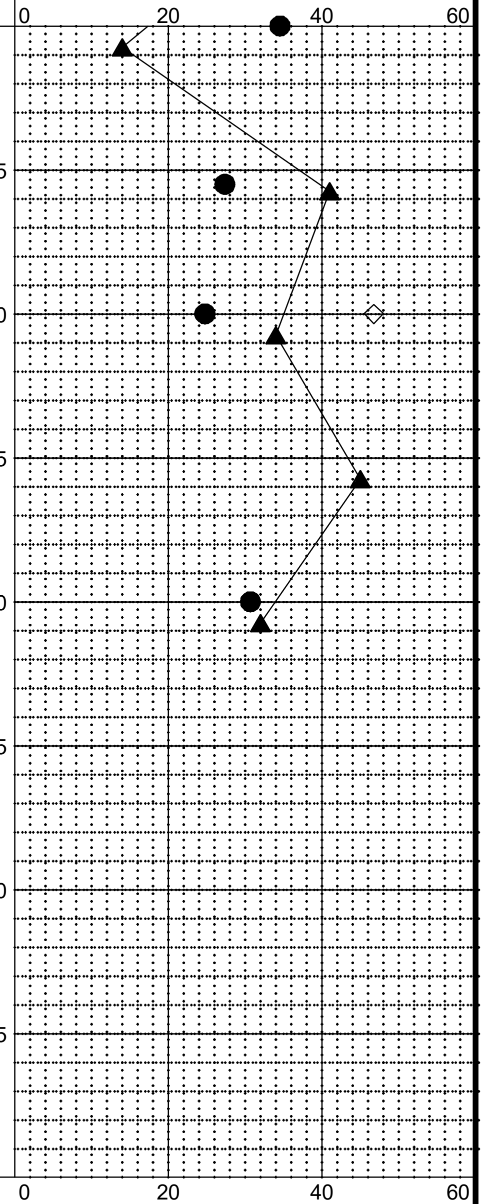
Total Depth: *101.5 ft.*	Latitude:	Drilling Method:	*Mud Rotary*	Hole Diam.:	*5 in.*
Top Elevation: *~*	Longitude:	Drilling Company:	*Holt Services*	Rod Diam.:	*NWJ*
Vert. Datum:	Station:	Drill Rig Equipment:	*Mobile Drill Track*	Hammer Type:	*Automatic*
Horiz. Datum:	Offset:	Other Comments:			

SOIL DESCRIPTION
Refer to the report text for a proper understanding of the subsurface materials and drilling methods. The stratification lines indicated below represent the approximate boundaries between material types, and the transition may be gradual.

Soil Description	Depth, ft.	Samples
Medium dense to dense, gray *Silt (ML)*; moist; few fine sand; nonplastic and low plasticity interbedded.	80.0	20
Dense, gray, *Silty Sand (SM)*; moist; fine sand; nonplastic.	85.5	21, 22
- Sandy silt layers interbedded from 95 to 96 feet.		23
- Trace organics below 100 feet.		24
BOTTOM OF BORING COMPLETED 8/18/2020	101.5	

Symbol | Ground Water | Depth, ft.

PENETRATION RESISTANCE (blows/foot)
▲ Hammer Wt. & Drop: *140 lbs / 30 inches*



◇ % Fines (<0.075mm)
● % Water Content
Plastic Limit ├─●─┤ Liquid Limit
Natural Water Content

LEGEND
* Sample Not Recovered
⌶ 2.0" O.D. Split Spoon Sample

NOTES
1. Refer to KEY for explanation of symbols, codes, abbreviations and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. USCS designation is based on visual-manual classification and selected lab testing.

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LOG OF BORING SW-1

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FIG. A-2
Sheet 3 of 3

REV 3

MASTER_LOG_E_MC 105564.GPJ SHAN_WIL.GDT 9/1/20 *Log: SAW Rev: AJB Typ: LKN*

LABORATORY TERMS

Abbreviations, Symbols, and Terms	Descriptions
%	Percent
*	Sample specimen weight did not meet required minimum mass for the test method
"	Inch
#	Test not performed by Shannon & Wilson, Inc. laboratory
ASTM Std.	ASTM International Standard
C_c	Coefficient of curvature
Clay-size	Soil particles finer than 0.002 mm
cm	Centimeter
cm^2	Square centimeter
Coarse-grained	Soil particles coarser than 0.075 mm (cobble-, gravel- and sand-sized particles)
Cobbles	Soil particles finer than 305 mm and coarser than 76.2 mm
C_u	Coefficient of uniformity
CU	Consolidated-Undrained
ε	Axial strain
Fine-grained	Soil particles finer than 0.075 mm (silt- and clay-sized particles)
ft	Feet
γm	Wet unit weight
Gravel	Soil particles finer than 76.2 mm and coarser than 4.75 mm
G_s	Specific gravity of soil solids
H_o	Initial height
ΔH	Change in height
ΔH_{load}	End of load increment deformation
in	Inch
in^3	Cubic inch
LL	Liquid Limit
min	Minute
mm	Millimeter
μ_m	Micrometer
MC	Moisture content
MPa	Mega-Pascal
NP	Non-plastic
OC	Organic content
p	Total stress
p'	Effective stress
Pa	Pascal
pcf	Pounds per cubic foot
PI	Plasticity Index
PL	Plastic Limit
psf	Pounds per square foot
psi	Pounds per square inch
q	Deviatoric stress
Sand	Soil particles finer than 4.75 mm and coarser than 0.075 mm
sec	Second
Silt	Soil particles finer than 0.075 mm and coarser than 0.002 mm
t_n	Time to n% primary consolidation
t_{load}	Duration of load increment
tsf	Short tons per square foot
USCS	Unified Soil Classification System
UU	Unconsolidated-Undrained
WC	Water content

SAMPLE TYPES

Abbreviations, Symbols, and Terms	Descriptions
2SS	2.5-inch Outside Diameter Split-Spoon Sample
2ST	2-inch Outside Diameter Thin-Walled Tube
3HSA	3-inch CME Hollow-stem Auger Sampler
3SS	3-inch Outside Diameter Split-Spoon Sample
4SS	4-inch Inside Diameter Split-Spoon Sample
6SS	6-inch Inside Diameter Split-Spoon Sample
CA_MC	Modified California Sampler
CA_SPT	Standard Penetration Test (SPT)
CORE	Rock Core
DM	+3.25 inch Outside Diameter Split-Spoon Sample
DMR	3.25-inch Sampler with Internal Rings
GRAB	Grab Sample
GUS	3-inch Outside Diameter Gregory Undisturbed Sampler (GUS) Sample
OSTER	3-inch Outside Diameter Osterberg Sample
PITCHER	3-inch Outside Diameter Pitcher Sample
PMT	Pressuremeter Test (f=failed)
PO	Porter Penetration Test Sample
PT	2.5-inch Outside Diameter Thin-Walled Tube
ROCK	Rock Core Sample
SCORE	Soil Core (as in Sonic Core Borings)
SH1	1-inch Plastic Sheath
SH2	2-inch Plastic Sheath with Soil Recovery
SH3	2-inch Plastic Sheath with no Soil Recovery
SPT	2-inch Outside Diameter Split-Spoon Sample
SS	Split-Spoon
ST	3-inch Outside Diameter Thin-Walled Tube
STW	3-inch Outside Diameter Thin-Walled Tube
TEST	Sample Test Interval
TW	Thin Wall Sample
UNDIST	Undisturbed Sample
VANE	Vane Shear
WATER	Water Sample for Probe Logs
XCORE	Core Sample

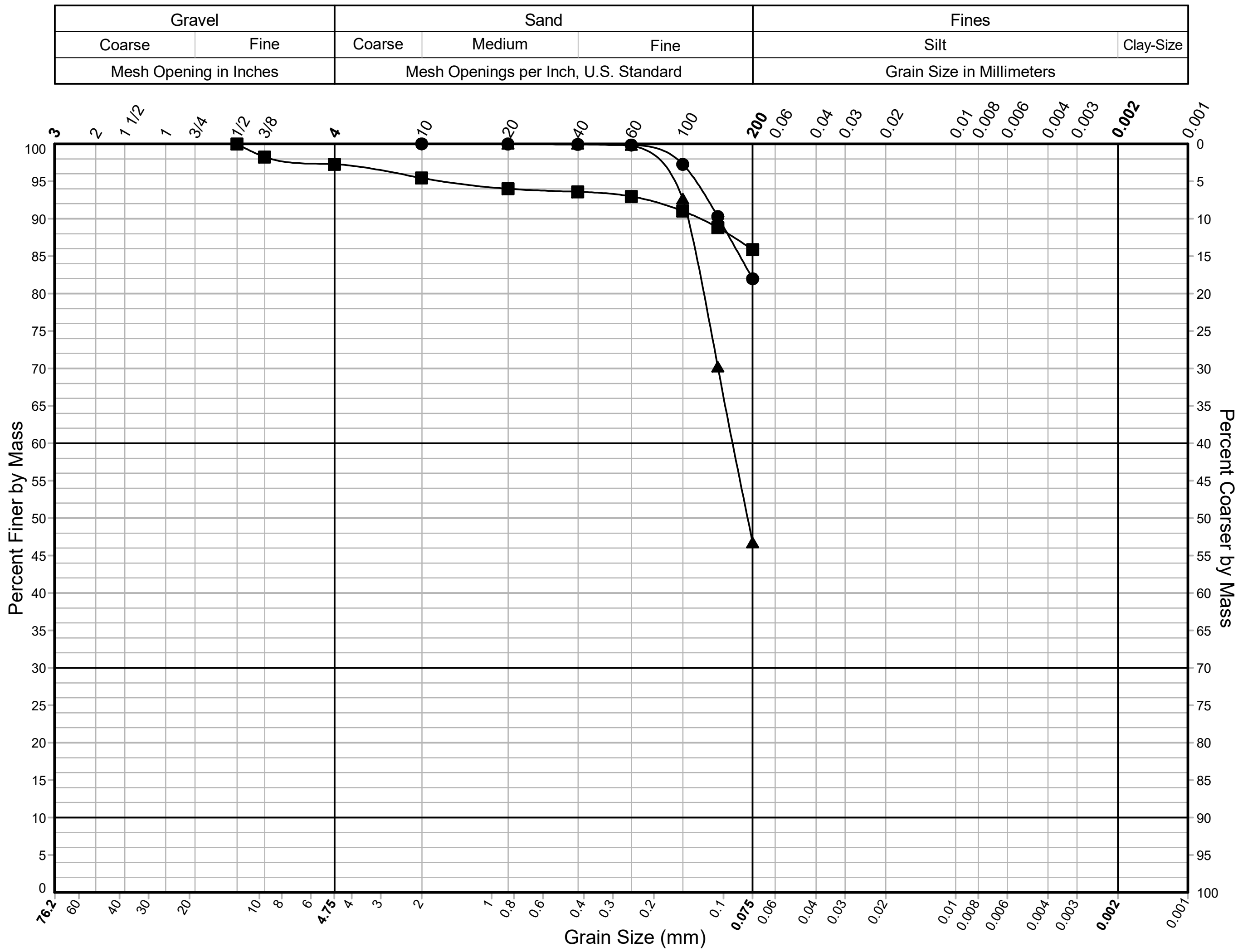
LABORATORY TEST SUMMARY

Boring	Top Depth (ft)	Sample Number	Sample Type	Blow Count	USCS	WC (%)	% Gravel	% Sand	% Fines	LL	PL	Soil Description
SW-1	7.5	S-3	SPT	25		22.8						
SW-1	10	S-4	SPT	7		26.0						
SW-1	15	S-6A	SPT	11	ML	48.9				42	26	Silt
SW-1	17.5	S-7	SPT	5	ML	40.1				36	28	Silt
SW-1	25	S-9	SPT	14	ML	30.9		18	82			Silt with Sand
SW-1	35	S-11	SPT	9		32.0						
SW-1	45	S-13	SPT	32	CL-ML	25.6	3*	11*	86*	27	20	Silty Clay
SW-1	55	S-15	SPT	34		26.1						
SW-1	65	S-17	SPT	27		27.1						
SW-1	70	S-18	SPT	17		29.8						
SW-1	75	S-19	SPT	36		20.7						
SW-1	80	S-20	SPT	14		34.5						
SW-1	85.5	S-21	SPT	41		27.4						
SW-1	90	S-22	SPT	34	SM	24.8		53	47			Silty Sand
SW-1	100	S-24	SPT	32		30.7						

GRAIN SIZE DISTRIBUTION PLOT

State Legislative Campus
Olympia, Washington

BORING SW-1



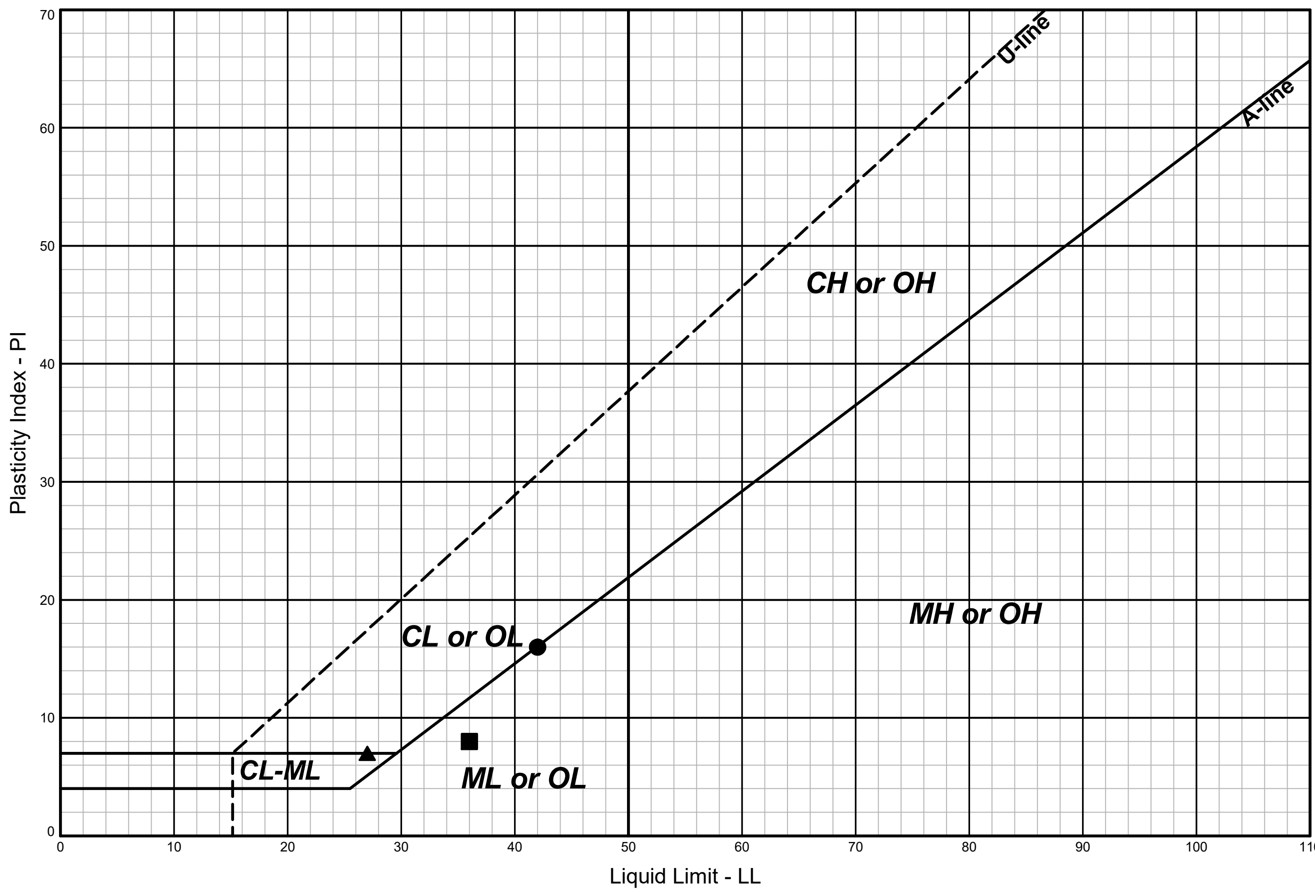
Sample Identification	Depth (ft)	USCS Group Symbol	USCS Group Name	Gravel %	Sand %	Fines %	< 20µm %	< 2µm %	WC %	Tested By	Review By	ASTM Std.
● SW-1, S-9	25.0	ML	Silt with Sand		18	82			30.9	MXC		D6913
■ SW-1, S-13*	45.0	CL-ML	Silty Clay	3	11	86			25.6	MXC		D6913
▲ SW-1, S-22	90.0	SM	Silty Sand		53	47			24.8	MXC		D6913

* *Test specimen did not meet minimum mass recommendations.*

PLASTICITY CHART

State Legislative Campus
Olympia, Washington

BORING SW-1



Sample Identification	Depth (ft)	USCS Group Symbol	USCS Group Name	LL	PL	PI	WC %	Gravel %	Sand %	Fines %	< 2µm %	Tested By	Review By	ASTM Std.
● SW-1, S-6A	15.0	ML	Silt	42	26	16	48.9					MRH		D4318
■ SW-1, S-7	17.5	ML	Silt	36	28	8	40.1					MRH		D4318
▲ SW-1, S-13	45.0	CL-ML	Silty Clay	27	20	7	25.6	3	11	86		AKV		D4318

Important Information

About Your Geotechnical/Environmental Report

IMPORTANT INFORMATION

IMPORTANT INFORMATION

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors that were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary, because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

EXCERPT FROM PHASE 1 ESA OF NEWHOUSE BUILDING - APPENDIX DOCUMENTS NOT INCLUDED

Phase I
Environmental Site Assessment

State of Washington Irving R. Newhouse Building
215 Sid Snyder Avenue Southwest
Olympia, Washington 98501

Prepared for:

Washington State Department of Enterprise Services
1500 Jefferson Street
Olympia, Washington 98504

August 13, 2020
PBS Project 40535.465

PBS

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PBSUSA.COM

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Supporting Data

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APPENDICES

Abbreviations

The following are commonly used abbreviations in PBS Phase I Environmental Site Assessment reports. Abbreviations are defined upon first use within the text.

AAI	all appropriate inquiry
ACBM	asbestos-containing building material
ACM	asbestos-containing material
AST	aboveground storage tank
ASTM	ASTM International (formerly American Society for Testing and Materials)
AUL	activity and use limitation
bgs	below ground surface (depth below the ground surface)
CEG	conditionally exempt generator (of hazardous waste)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (EPA)
CREC	controlled recognized environmental condition
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources (a regulatory database report provider)
EPA	Environmental Protection Agency
ESA	environmental site assessment
HOT	heating oil tank
HREC	historical recognized environmental condition
LCP	lead-containing paint
LQG	large-quantity generator (of hazardous waste)
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram (equivalent to ppm)
MTCA	Model Toxics Control Act (Washington State)
NFA	No Further Action determination (Ecology)
NLR	no longer reporting
NonGen	non-generator of hazardous waste
PBS	PBS Engineering and Environmental Inc.
PCB	polychlorinated biphenyls
ppm	parts per million (equivalent to mg/kg)
RCRA	Resource Conservation and Recovery Act (EPA)
REC	recognized environmental condition
SQG	small-quantity generator (of hazardous waste)
USGS	United States Geological Survey
UST	underground storage tank

Executive Summary

A Phase I Environmental Site Assessment was conducted by PBS Engineering and Environmental Inc. (PBS) for the property (Site or subject property) located at 215 Sid Snyder Avenue Southwest in Olympia, Washington. The assessment was conducted for The Washington State Department of Enterprise Services (Client). This assessment was performed in general compliance with the ASTM International E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the Environmental Protection Agency (EPA) in November 2013, for conducting all appropriate inquiries (AAI).

This report should be read in its entirety (text and attachments) before decisions are made based on the findings provided in the Executive Summary. PBS is not responsible for utilization of less than the complete report.

Site Description and History

The Site is a 87,500-square-foot property spanning a single assessor's parcel occupied by a two-story office building constructed in 1934 and two residential structures constructed by 1908 and 1924, respectively. Current tenants are Washington State Government employees. No manufacturing occurs on the subject property. The building is heated by steam from a central boiler plant on the Washington State Capitol Campus. Exterior areas include landscaping and paved parking.

Regulatory Review

EPA and state environmental databases were reviewed to identify sites that pose a potential environmental concern to the subject property. The subject property does not appear on any databases. Based on a review of the listed sites, none appear to pose a significant environmental concern to the subject property.

Findings and Opinion

This Phase I ESA identified the following:

1. Two USTs are reported to be present on the west adjacent property at the O'Brien and Cherberg Buildings. The client indicated that both USTs are regulated by the Washington State Department of Ecology (Ecology), although records were only available for the UST at the O'Brien Building on Ecology's online UST database.[1] Given the proximity of the USTs and their potentially cross-gradient location with respect to groundwater flow, PBS considers this to be of moderate environmental concern to the subject property.
2. Several other downgradient sites were reported to have discovered and/or cleaned up petroleum contamination relating to releases from USTs. Given the distance of these sites and their relative locations to the subject property with respect to groundwater flow, PBS does not consider these sites to present an environmental concern to the subject property.

Recognized Environmental Conditions (RECs), Including Controlled RECs (CRECs)

PBS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13 of in , the subject property. Any exemptions to, or deletions from, this practice are described in section 1 of this report. This assessment has revealed no evidence of RECs in connection with the property. This assessment has revealed no evidence of RECs in connection with the property.

[1] https://apps.ecology.wa.gov/tcpwebreporting/reports/ust

Data Gaps

No data gaps were identified during this study.

Additional Investigation

Additional investigation prior to property redevelopment is not warranted. Monitoring for contaminants should be conducted during intrusive earthwork along the northern property boundary to assess the potential for migration of petroleum contaminants from USTs on the west adjacent property.

1 PROJECT AND REPORT INFORMATION

1.1 PBS Client Information

PBS Engineering and Environmental Inc. (PBS) conducted this assessment for (Client). The Client is considered the User, as defined by ASTM International Standard E1527-13.

This Phase I Environmental Site Assessment has been requested by prior to redevelopment of the subject property. This assessment was performed in general compliance with ASTM International's E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the Environmental Protection Agency (EPA) in November 2013, for conducting all appropriate inquiries (AAI).

1.2 Report Purpose

A Phase I Environmental Site Assessment (ESA) was conducted by PBS for the property located at 215 Sid Snyder Avenue Southwest in Olympia, Washington (Site or subject property). The purpose of the Phase I ESA was to identify recognized environmental conditions associated with the subject property, and to assess the likelihood that contamination from hazardous substances or petroleum products may exist on the Site either from past or present use of the subject property or nearby properties. This study is intended to reduce, not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with the subject property, within reasonable limits of time and cost.

The purpose of this study is to conduct an all appropriate inquiry into the current and previous ownership and uses of the subject property consistent with good commercial or customary practice. In so doing, the Client may qualify for one of three Landowner Liability Protections (LLP) that limit Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. The Client must fulfill associated continuing obligations in order to maintain LLP status.

1.3 Scope of Work

The assessment was performed in general compliance with the ASTM International (ASTM) E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the EPA in November 2013. Unless noted in section 1.6 Special Terms and Conditions, the scope of work for the project included the following:

1. Identifying and visually surveying the subject property for the presence of hazardous substances and petroleum products.
2. Obtaining information from the Client through a completed disclosure questionnaire and a review of a title report, if provided by the Client.
3. Reviewing federal, state, tribal, and local agency listings using a commercial database search provider, including activity and use limitations.
4. Reviewing historical maps, historical occupant records, and the nature of past property usage.
5. Reviewing readily available soils, geology, or environmental reports for the subject property or subject property vicinity.
6. Interviewing persons knowledgeable about the subject property, including current and previous owners.
7. Preparing the report summarizing any observations, sources used, findings, conclusions, and opinions relating to the presence or likely presence of hazardous substances or petroleum products on the subject property, including the potential for contaminants migrating to the subject property from an off-site location.

This assessment considers business environmental risks (see section 11.2 Glossary) that are not recognized environmental conditions unless the Client specifically requests otherwise. Please refer to the PBS Proposal to Provide a Phase I Environmental Site Assessment/Contract, Appendix A, for a detailed description of our scope of work.

PBS has prepared this report using information that is reasonably ascertainable; that is, information that is practically reviewable, publicly available, and obtainable from its source within reasonable time and cost constraints.

1.4 Conformance with ASTM E1527-13

This report has been formatted to maximize reader usability and comprehension. This report conforms to the requirements of ASTM E1527-13, and items indicated in Appendix X4 of the standard are included. Section 11 provides a cross-reference table that allows the reader to confirm conformance.

1.5 Non-ASTM Method Scope of Work

Non-ASTM method issues such as asbestos, lead-containing paint, wetlands, indoor air quality were not addressed during this study.

1.6 Special Terms and Conditions

The standard PBS Terms and Conditions are included in the PBS Proposal to Provide a Phase I Environmental Site Assessment/Contract in Appendix A; there are no special terms and conditions.

1.7 Client-Imposed Limitations

The Client did not impose limitations on PBS while completing this report.

2 PROPERTY INFORMATION AND PHYSICAL SETTING

2.1 Site Description

Site Address:	215 Sid Snyder Avenue Southwest, Olympia, Washington 98501
Tax Lot:	Thurston County Assessor ID 31300300100
Township, Range, Section:	Township 18N Range 2W, SE ¼ of SW ¼ of Section 47, Willamette Base and Meridian
Size:	Approximately 2.0 acres or 87,629 square feet
Current Use:	State Government Office

Tax lot information was obtained from the Thurston County online maps resource[2] on August 10, 2020. The property comprises one assessor's parcel (Thurston County Assessor ID 31300300100) with a right of way running north south down the middle. The parcel is listed on the Thurston County online maps resource as 1.32 acres. However, for the purposes of this Phase I ESA, the client requested PBS to consider the property to comprise the entire area between Water Street SW to the west, 15th Avenue SW to the south, Columbia Street SW to the east and Sid Snyder Avenue SW to the north. The area between these boundaries is a total of approximately 2 acres. See Figure 2 for property boundaries.

A Site Vicinity Map and Site Plan are included with this report under Figures. A copy of the county assessor's tax map is included in Appendix B.

2.2 Owner and Occupant(s)

Current Owner:	Washington Department of Enterprise Services
Previous Owner:	Unknown
Property Manager:	Washington Department of Enterprise Services
Current Occupant(s):	Washington State Government Offices

2.3 Topography and Surface Features

The US Geological Survey 7.5-minute topographic map (Tumwater Quadrangle, 2014; see Figure 1) for the Site indicates that the property lies on relatively flat land. There is a gradual slope to the north towards Budd Inlet of the greater Puget Sound and a steep slope approximately 1,000 feet to the west southwest toward Capitol Lake. The subject property elevation is approximately 120 feet above mean sea level.

The topographic map indicated that the nearest surface water Capitol Lake is located approximately 500 feet southwest from the subject property. West Bay of Budd Inlet and the greater Puget Sound is located approximately 3,500 feet to the north.

2.4 Groundwater Well/Borehole Records

The Washington State Department of Ecology's (Ecology) well log database[3] provides logs for water wells, monitoring wells, and geotechnical borings along with decommissioned well reports and other records. This database was reviewed by PBS on August 5, 2020. The following representative nearby well logs were identified: BBR529 through BBR 531, BBK588 through BBK589, B-1 through B-8, BAM-129 through BAM-132, and wells number 1 through 6. Well and soil boring logs indicate that borings were advanced in silt with beds

[2] http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx
[3] https://appswr.ecology.wa.gov/wellconstruction/map/WCLSWebMap/default.aspx

of silty sand, gravel and clay. Records for the nearby wells indicate that groundwater was not encountered at depths up to 100 feet below ground surface (bgs). Copies of the reviewed logs are included in Appendix B.

Based on the subject property's topographic location near the top of a hill as well as the topography and nearest surface water bodies as described in section 2.3, shallow unconfined groundwater is expected to flow radially from the property to the west, north and east; therefore, properties to the south and southeast are considered upgradient to the subject property. Properties to the west, north and northeast are considered downgradient from the subject property.

3 GOVERNMENTAL AND REGULATORY RECORDS REVIEW

3.1 Government Record Sources

Washington State Department of Ecology (Ecology) Online Facility Profiler

Ecology maintains an online database[4] of state cleanup and federal Superfund sites, hazardous waste generators, underground storage tanks (USTs), solid waste facilities, and other environmental concerns. This website was reviewed by PBS on August 4, 2020. The subject property was not listed. No adjoining or nearby properties were listed other than those identified by the environmental database search (see section 3.2).

Local Fire Department

The City of Seattle Fire Department keeps records of permits for USTs from 1996 through the present, as well as spills or hazardous materials incidents. Information was requested regarding past activity at the subject property.

PBS submitted a public records request with the City of Olympia's Records Request Center[5] on August 4, 2020. PBS did not receive a response by the issuance date of this report.

Underground Injection Controls (UICs)

Ecology maintains an online database for registered underground injection controls (UICs.)[6] This database was reviewed by PBS on August 4, 2020. No records of UICs were on file for the subject property or adjacent properties.

Other Government Records

No other local government records were reviewed for this assessment.

3.2 Standard Environmental Record Sources

A search of EPA, state, and tribal environmental database listings was performed by a commercial database search provider (a copy of the database search report is included in Appendix C). The purpose of this search was to identify potential, suspected, or known sources of contamination on or in the area of the subject property. Various agency listings were searched for different approximate minimum search distances from the subject property as established in the ASTM method. Listings included publicly available databases of environmental liens, activity and use limitations, and easements and equitable servitudes, if recorded or filed.

If the Site and/or adjacent properties are identified in the regulatory database report, the information is summarized below. Regulatory data for surrounding properties that may pose a potential risk to the subject property are also included. Other properties listed in the database report are not considered to be of environmental concern to the Site based on presumed groundwater flow direction, distance from the subject property, regulatory status (for example, the agency file is closed), or other physical factors.

The commercial database report may also include proprietary data derived from historical city directories. These can include historical dry cleaners/laundries and automobile stations (gas stations, automobile repair shops, auto body shops). These are non-regulatory listings and are included as historical information.

Subject Property

The subject property does not appear on the regulatory database report.

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[4] https://apps.ecology.wa.gov/neighborhood/
[5] https://public-olympiawa.mycusthelp.com/WEBAPP/
[6] https://apps.ecology.wa.gov/uicsearch/

Adjoining Properties

Address:	103 Sid Snyder Avenue SW	Program #:	N/A
Located 64 feet east (cross-gradient) of subject property			
The property is listed on Ecology's Facility/Site Identification System Listing (ALLSITES) database due to the presence of underground utility drainage. No further information is available in the EDR report. This listing does not present an environmental risk to the subject property.			

Address:	304 15th Avenue SW	Program #:	USTID: 619350
Located west southwest (cross- to downgradient) of subject property			
The Washington Department of Enterprise Services Cherberg Building is listed on Ecology's Underground Storage Tank (UST) and ALLSITES databases due to the presence of a registered UST on the property. A copy of the UST System Summary was not available on Ecology's UST database. Given the proximity and potentially cross-gradient location of the property to the subject property, the UST presents a moderate environmental concern to the subject property.			

Address:	504 15th Avenue SW	Program #:	UST ID: 620046
Located west (cross- to downgradient) of subject property			
The Washington Department of Enterprise Services O'Brien Building is listed on EPA's Facility Index System/Facility Registry System (FINDS) and Ecology's UST and ALLSITES databases. The listings are due to the presence of a UST on the property. A copy of the UST System Summary from Ecology's UST database is included in Appendix C. The O'Brien Building is located on the opposite side of the Cherberg Building from the subject property. Because the O'Brien and Cherberg Buildings share the same assessor's parcel, both are considered an adjoining property to the subject property for the purposes of this Phase I ESA. The property is also listed on the ASBESTOS database due to the presence of asbestos containing ducting and pipe insulation in the building. Given the proximity and potentially cross-gradient location of the property to the subject property, the UST presents a moderate environmental concern to the subject property.			

Surrounding Properties

Address:	210 11th Avenue SW #403	Program #:	N/A
Located 352 feet northeast (downgradient) of subject property			
The Washington State Department of Agriculture Federal Lab is listed on Ecology's ALLSITES database as well as EPA's Facility Index System/Facility Registry System (FINDS), Resource and Conservation Recovery Act Non Generators / No Longer Regulated (RCRA NonGen / NLR) and Enforcement & Compliance History Information (ECHO) databases. The site address is listed as 403 General Admin BLDG in the EDR report. The address provided above is inferred from the location of the General Administration building at 210 11th Avenue SW. A second listing of the site in the EDR report states the site address as 1111 Washington Street SE. The listings are due to the property being a non-generator of hazardous waste. This listing does not present an environmental risk to the subject property.			

Address:	200 14th Avenue SE	Program #:	N/A
Located 478 feet east northeast (downgradient) of subject property			
The East Campus Plaza IV Construction Site is listed on Ecology's ALLSITES and EPA's Facility FINDS databases. No additional information about the property is provided in the EDR report. This listing does not present an environmental risk to the subject property.			

Address:	316 17th Avenue SW	Program #:	N/A
Located 564 feet south southwest (downgradient) of subject property			
The residential property is listed on Ecology's Independent Cleanup Reports (ICR) database due to reported cleanup of petroleum products in soil related to a heating oil tank. This listing does not present an environmental risk to the subject property due to its distance and downgradient location relative to the subject property.			

Address:	210 11th Avenue SW	Program #:	WA UST# 3135
Located 599 feet north northeast (downgradient) of subject property			
The WA GA UST 3135 Site is listed on Ecology's ALLSITES, UST, Voluntary Cleanup Program (VCP) and EPA's FINDS databases. The listings are due to a former UST used to store unleaded gasoline, which was removed from the property in 1996. There is no information regarding the performance of a site assessment during tank removal in the EDR report, or in Ecology's UST database records. PBS performed a Phase I ESA on the property in May 2020. The Phase I reported that an additional UST was installed in 1995 at the property. Both USTs were corrosion resistant and had several spill prevention controls indicating a release to the subsurface was unlikely. This listing presents a low environmental risk to the subject property.			

Address:	501 13th Avenue SW	Program #:	N/A
Located 806 feet west northwest (downgradient) of subject property			
The Washington State Governor Mansion is listed on Ecology's ALLSITES and UST databases as well as state and tribal Leaking Underground Storage Tank (LUST) and Confirmed and Suspected Contaminated Sites List No Further Action (CSCSL NFA) databases. Listings of the property are due to a confirmed release of diesel and gasoline petroleum products to soil from a UST in 1992. Initial investigation conducted in 2012 indicated that concentrations of contaminants were below state cleanup levels. A No Further Action determination was granted to the property by Ecology based on the results of the initial investigation. This listing does not present an environmental risk to the subject property based on its cross-gradient location and No Further Action status.			

Address:	1115 Washington Street SE	Program #:	WA UST #9485
Located 809 feet east (cross-gradient) of subject property			
The Washington Department of Enterprise Services East Plaza Garage Phase 5B / CB&G Office Building 2 site is listed on Ecology's ALLSITES, Financial Assurance Information Listing (Financial Assurance 1) and UST databases. The listings are due to a former UST used to store diesel fuel, which was removed from the property in 1996. There is no information regarding the performance of a site assessment during tank removal in the EDR report, or in Ecology's UST database records. This listing presents a low environmental risk to the subject property.			

Address:	12th and Franklin Streets	Program #:	N/A
Located 813 feet northeast (downgradient) of subject property			
The Washington Department of Enterprise Services Division of Capitol Facilities 2 site is listed on Ecology's ALLSITES and Hazardous Waste Manifest Data (MANIFEST) databases as well as EPAs RCRA Very Small Quantity Generator (RCRA VSQG) database. The listings are due to the property being registered as a conditionally exempt small quantity generator of hazardous waste. This listing presents a low environmental risk to the subject property.			

Address:	WA GA Central Steam Plant	Program #:	N/A
Located 1,267 feet northwest (downgradient) of subject property			
The Washington GA Central Steam Plan, also known as the WA GA Powerhouse CB&G or Capitol Powerhouse is listed on Ecology's ALLSITES database. The address for the property is listed as 900 Water Street SW in the EDR report but its location is inferred as the south end of Powerhouse Road SW from Google Maps. The listing is due to the discovery of subsurface petroleum contamination in 1992. During excavation of petroleum contaminated soil, two USTs were discovered, containing diesel and Bunker C fuel, respectively. The excavation was advanced below the water table, and a sheen was observed on groundwater encountered in the excavation. An estimated 215 cubic yards of petroleum contaminated soil were removed from the site. A 350,000 gallon above ground storage tank (AST) is also present at the property. Ecology completed a Site Hazard Assessment (SHA) for the property in 2011 and gave it a hazard ranking of 5, the maximum allowable hazard ranking. The SHA notes that Thurston County believes that existing documentation does not sufficiently characterize the extent of contamination in accordance with Ecology's Model Toxics Control Act (MTCA). Because the topographic elevation of the property is approximately 100 feet lower than that of the subject property, it is considered downgradient from the subject property with respect to groundwater flow. As such, this listing does not present an environmental risk to the subject property.			

Address:	WA State Senate Print	Program #:	N/A
Located 130 feet west (downgradient) of subject property			
The Washington State Senate Print is listed on Ecology's ALLSITES database. The address for the property is not provided in the EDR report but is listed at B7 of the John A Cherberg Building, which is located 130 feet to the west of the subject property. The EDR lists the WA State Senate Print site as 1,213 feet west southwest of the subject property. No additional information is provided in the EDR report. This listing does not present an environmental risk to the subject property.			

Unmappable Sites

The unmappable/orphan sites were reviewed on August 10, 2020. Based on the presumed location or reported regulatory status, unmappable sites listed on the EDR database report are considered to pose *de minimis* concern.[7]

[7] Unmappable sites are identified as "Non-Geocoded" or "Orphan" in the regulatory database report. They are categorized this way because inaccurate or incomplete site addresses prevented mapping by the database provider. PBS has reviewed and, in some cases, located these unmappable sites. Environmental risk associated with remaining unmappable sites could not be determined.

4 HISTORICAL RECORDS REVIEW

4.1 Standard Historical Sources

ASTM E1527-13 indicates that review of standard historical sources at less than approximately five-year intervals is not required by this practice. If the specific use of the property appears unchanged over a period longer than five years, then it is not required by this practice to research the use during that period.

The following standard sources were reviewed:

- Aerial photographs were obtained from EDR aerial photograph collection and Google Earth.
- Sanborn fire insurance maps were obtained from EDR's Sanborn Collection.
- Topographic maps were obtained from EDR Topographic Maps.

No other historical records were reviewed for this assessment.

The table below summarizes the information gathered from the sources listed above. Data obtained from other sources reviewed for this Phase I ESA may also be included in the following tables in order to identify potential historical data failures.

Copies of the reviewed records are included in Appendix D.

Year	Source	Description
1908	Sanborn map	Subject Property: The subject property is shown as developed with a single-family residence in the southeast corner. Adjoining Properties: The south and east adjacent properties are shown as sparsely developed with single-family residential structures. The west adjacent property is shown as Capitol Park.
1924	Sanborn map	Subject Property: An additional single-family residential structure has been constructed on the northeast corner of the subject property. Adjoining Properties: Additional single-family residences are shown on the east and south adjacent properties. The State Capitol Building is shown to the northwest.
1937	Topographic map	Subject Property: The subject property is shown as developed with the Irving R. Newhouse Building (Newhouse Building) on the western portion and two single-family residences in the northeast and southeast corners, respectively. Adjoining Properties: The slope to Capitol Lake is shown to the west of the subject property.
1941	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: The O'Brien and Cherberg Buildings are shown on the west adjacent property.

Year	Source	Description
1946 & 1947	Sanborn map	Subject Property: A third single-family residential structure is visible in the eastern central portion of the subject property. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1949	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1953	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1957	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1959	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: The Pritchard Building is shown cater-cornered to the southwest of the subject property.
1968	Aerial photograph, topographic map & Sanborn map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1973	Aerial photograph & topographic map	Subject Property: The subject property is not visible in the 1973 aerial photograph due to obstructions from the scanning of the photograph. No significant changes are apparent in the topographic map. Adjoining Properties: Adjacent properties are not visible in the 1973 aerial photograph due to obstructions from the scanning of the photograph. No significant changes are apparent in the topographic map.
1974	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1976	Aerial photograph	Subject Property: The single-family residential structure in the eastern central portion of the subject property is no longer visible. Adjoining Properties: No significant changes to the adjacent properties are apparent.

Year	Source	Description
1980	Aerial photograph	Subject Property: A parking lot is visible in the eastern central portion of the subject property. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1981	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1990	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1991	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1994	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1997	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2006	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2009	Aerial photograph	Subject Property: The two buildings on the eastern portion of the subject property visible in the 2006 aerial photograph have been removed, and a parking lot is shown in their place in the 2009 aerial photograph. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2014	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2017	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.

Summary of Property Use from Historical Sources

The subject property was developed with one single-family residential structure by 1908. A second single-family residential structure was constructed on the property by 1924. The Irving R. Newhouse Building

(Newhouse Building) was built on western portion of the property by 1937. A third single-family residential structure was constructed on the eastern central portion of the property by 1946, and was demolished by 1976, giving way to construction of a parking lot by 1980. The subject property remained relatively unchanged from 1980 to present.

By 1908 the adjoining properties to the south and east had been developed with single-family residences. The west adjacent property remained undeveloped until 1941, at which time the O'Brien and Cherberg Buildings had been constructed. Adjoining properties remained developed with their 1941 structures from 1941 to present. The Pritchard Building was constructed cater-cornered to the southwest by 1959. Surrounding properties remained relatively unchanged from 1959 to present day.

4.2 City Directories

City directories were searched using EDR. A listing of the directory listings is included in Appendix D. A summary of the findings is presented below.

The historical directories did not identify listings of potential concern at adjacent properties with the exception of Affordable Pest Management listed in the 2000 to 2017 city directories at the west adjacent property. This adjacent property is located hydraulically downgradient of the subject property. The business does not appear in any of the government databases reviewed for this assessment relating to environmental or hazardous materials concerns. As such, this city directory listing does not present a concern to the subject property.

4.3 Previous Environmental Assessments

PBS completed an indoor air quality assessment for the subject property in November 2019 to evaluate carbon monoxide and carbon dioxide levels, temperature and relative humidity in the basement of the Newhouse Building[8]. PBS also completed an asbestos survey report for the Newhouse building in March 1995. These assessments did not reveal environmental concerns relating to the redevelopment of the property.

4.4 Activity and Use Limitations

PBS did not identify environmental liens, activity and use limitations (AULs), or easements and equitable servitudes on the subject property during this study.

4.5 Data Failure

Data failure was encountered while conducting the historical research for this Phase I ESA report. Data failure occurs when the standard historical sources reasonably ascertainable and likely to be useful have been reviewed, but the objectives in ASTM E1527-13 Sections 8.3.1 through 8.3.2.2 have not been met. If the data failure represents a significant data gap, the impact of this data gap shall be discussed in section 8.1 of this Phase I ESA report.

The following data failure occurred:

- Several time periods exist for which data could not be gathered every five years (see source tables above). Section 8.3.2.1 of ASTM E1527-13 indicates that if the specific use of the property appears unchanged over a period longer than five years, then research of its use during that period is not required. PBS does not view this data failure as a significant data gap and the data failure does not change the conclusions or opinion of PBS as stated in this Phase I ESA.

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[8] *Limited Indoor Air Quality Assessment Report – Irving R Newhouse Building,* PBS Engineering and Environmental, November 7, 2019.

5 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by James Welles, Project Geologist, PBS environmental professional (EP), on August 3, 2020 to observe and document site conditions and visible indications of existing environmental conditions. The reconnaissance was performed accompanied by Majid Jamali, Project Manager with the Washington State Department of Enterprise Services.

The entirety of the basement, first and second floor common areas of the Newhouse Building of the subject property were accessed including all restrooms and mechanical rooms. Approximately 10% of individual offices were accessed. Not all offices were accessed to avoid disturbing occupants. The two structures on the eastern portion of the property were viewed from the outside, but PBS did not enter the structures.

Photographs of the Site are included in Appendix E.

5.2 Site and Vicinity General Characteristics

The subject property is 2.0 acres spanning one assessor's parcel with a right of way running north to south down the center of the parcel. The subject property is located on the Washington State Capitol Campus in southwest Olympia just east of Capitol Lake. The subject property is relatively flat with a gradual downward slope to the north towards Budd Inlet of the greater Puget Sound and steep southwestward slope to the west descending to Capitol Lake. The western portion of the property is occupied by the Newhouse Building, with two single-family residential structures and a parking lot to the east and an additional parking lot to the south.

Site Operations/Processes

The Newhouse Building was originally constructed in 1934 and has housed a number of Washington State government entities including the State Highway Department, Labor and Industries, Social and Health Services and most recently the State Senate. The single-family residential structures on the eastern portion of the property were originally used as homes, and have more recently been occupied as offices for state government employees.

Exterior Improvements

The primary entrance to the building is on the north end through the lobby. Parking is located to the east and south of the Newhouse Building.

Utilities

Water Supply:	State of Washington owned West Campus water system (obtains potable water from City of Olympia)
Sewage System:	State of Washington owned sanitary sewer system (discharges to City of Olympia sanitary sewer system)
Stormwater:	State of Washington owned stormwater system (operates as secondary permittee to City of Olympia)
Heating Source:	Steam from Washington State Capitol Campus central boiler plant (off property)

5.3 Site Conditions and Observations

Aboveground and Underground Storage Tanks

No indications of ASTs or USTs, such as vent pipes or fill pipes, were observed on the subject property's grounds during the site reconnaissance.

Drywells, Injection Wells, Septic Systems

None of these features were observed and/or known to be present on the subject property.

Floor Drains, Catch Basins, Sumps, Oil/Water Separators

Floor drains were observed in all restrooms within the Newhouse Building, as well as in one mechanical and janitorial room in the basement. No staining or evidence of spills was observed in or near the floor drains. Storm water catch basins were observed outside along the eastern perimeter of the building, as well as along Sid Snyder Avenue SW and Water Street SW to the north and west of the property, respectively.

Hazardous Substances, Petroleum Products, Unidentified Containers

None of these features were observed and/or known to be present on the subject property, with the exception of the AST prior noted in this section.

Improper Dumping/Solid Waste Disposal

No indications of improper solid waste disposal were observed during the site reconnaissance.

Pits, Ponds, Lagoons, Surface Impoundments

None of these features were observed on the subject property.

Polychlorinated Biphenyls (PCBs)

PCBs were once used in the manufacture of electrical equipment (transformers) and hydraulic fluids. Now considered hazardous substances under CERCLA rules, the manufacture of PCBs was banned in 1979. Examination or sampling of individual building components or fixtures for PCBs is not within the scope of the Phase I ESA.

Stains, Sheens, Odors

None of these conditions were observed on the subject property.

Wells

Water supply wells and monitoring wells were not observed on the subject property.

Other Conditions of Concern

No other conditions of concern were observed on the subject property during the site reconnaissance.

5.4 Observed Current Use of Adjoining Properties

North:	State Government Offices (WA State Auditor's Office) and Vietnam Veteran's Memorial
South:	Multi-family residential
East:	Parking lot and WA State Capitol Visitor's Center
West:	State Government Offices (O'Brien and Cherberg Buildings)

These properties were viewed from the subject property or the nearest public right-of-way. A potential UST was observed to the west of the subject property, in the parking lot immediately south of the Cherberg Building.

6 INTERVIEWS

The section below summarizes information obtained from interviews and questionnaires completed by the Client/User, property owner, and/or other key personnel.

6.1 Interview with Client/User

The Client did not complete PBS' standard Client/User Questionnaire. This does not, however, change the opinion of PBS because the client is also the owner and did complete the Property Owner/Representative Questionnaire.

6.2 Interview with Owner

The PBS standard Property Owner/Representative Questionnaire was completed by Ms. Carrie R Martin, Environmental Planner with the Department of Enterprise Services, and is included in Appendix F. Mr. Majid Jamali with the Department of Enterprise Services was also interviewed in person on August 3, 2020. The interview and questionnaire are summarized as follows:

- Ms. Martin indicated that interior floor drains at the subject property were emitting foul odors. A project was done in 2014 for plumbing and HVAC repairs to address P-traps and drains, allowing venting from the wastewater system into the building.
- Ms. Martin indicated that prior environmental assessments had been performed at the subject property. The environmental assessments related to evaluation of indoor air quality in the basement of the Newhouse Building, and a survey of asbestos containing building materials. Neither assessment presents an environmental concern to redevelopment of the property. See section 4.3 of this report for more detail.

6.3 Interview with Previous Owner(s)

An interview with the previous owner was not completed. Based on available historical and regulatory information for the subject property, this does not impact the ability of PBS to identify recognized environmental conditions (RECs).

6.4 Interviews with Others

No other interviews were conducted for this report.

7 NON-SCOPE CONSIDERATIONS

Non-scope considerations are issues or conditions at the subject property that could pose a business risk to an owner or prospective purchaser but are not included in a standard Phase I ESA. PBS assesses non-scope considerations only when requested to do so by the Client.

There were no non-scope considerations requested by the Client.

8 EVALUATION

The sections below present the findings, opinion, and conclusions of this Phase I ESA.

8.1 Findings and Opinion

This Phase I ESA identified the following:

1. Two USTs are reported to be present on the west adjacent property at the O'Brien and Cherberg Buildings. The client indicated that both USTs are regulated by the Washington State Department of Ecology (Ecology), although records were only available for the UST at the O'Brien Building on Ecology's online UST database.[9] Given the proximity of the USTs and their potentially cross-gradient location with respect to groundwater flow, PBS considers this to be of moderate environmental concern to the subject property.
2. Several other downgradient sites were reported to have discovered and/or cleaned up petroleum contamination relating to releases from USTs. Given the distance of these sites and their relative locations to the subject property with respect to groundwater flow, PBS does not consider these sites to present an environmental concern to the subject property.

8.2 Conclusions

PBS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13 of in , the subject property. Any exemptions to, or deletions from, this practice are described in section 1 of this report. This assessment has revealed no evidence of RECs in connection with the property. This assessment has revealed no evidence of RECs in connection with the property.

Data Gaps

No data gaps were identified during this study.

Additional Investigation

Additional investigation prior to property redevelopment is not warranted. Monitoring for contaminants should be conducted during intrusive earthwork along the northern property boundary to assess the potential for migration of petroleum contaminants from USTs on the west adjacent property.

[9] https://apps.ecology.wa.gov/tcpwebreporting/reports/ust

9 SIGNATURES

PBS respectfully submits the results of our Phase I Environmental Site Assessment. We appreciate the opportunity to provide our recommendations for your project. If you have additional concerns, please do not hesitate to contact us at (206) 233-9639.

Sincerely,
PBS Engineering and Environmental Inc.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Digitally signed by James Welles
Date: 2020.08.13 14:41:31 -07'00'

James Welles Date
PBS Project Geologist

Megan Nogeire

Digitally signed by Megan Nogeire
Date: 2020.08.13 14:58:57 -07'00'

Megan Nogeire Date
PBS Senior Project Manager

10 ASSUMPTIONS AND LIMITATIONS

10.1 Significant Assumptions

Client's Responsibilities

It is assumed that the User has provided PBS with title and lien records, actual knowledge of environmental liens or activity and use limitations encumbering the property, any specialized knowledge or experience material to recognized environmental conditions in connection with the property, any commonly known or reasonably ascertainable information material to recognized environmental conditions on the property, and the reason why the property may have a significantly lower purchase price than comparable properties, if applicable (User Responsibilities, ASTM E1527-13, Section 6.0).

It is further assumed that the Client will read this report in its entirety (text and attachments) before making decisions based on the findings of the report.

Groundwater Flow

Groundwater flow direction has been determined based on topography in the area of the subject property; the assumption is that shallow groundwater flow will follow topography. No site-specific field measurements of groundwater flow direction (such as installation of groundwater monitoring wells) have been performed.

Based on this interpretation, PBS has reviewed regulatory agency information for sites located in a presumed upgradient direction that, based on proximity and knowledge of potential contaminant fate and transport, may potentially impact the subject property.

Accuracy and Completeness

The public records search is performed by PBS with the understanding that such records may be inaccurate or incomplete, and that the ability of public agencies to retrieve records may be variable or inconsistent over time. Similarly, PBS interviews of knowledgeable persons are performed in good faith that information provided is reasonably accurate and truthful. It may not always be feasible or appropriate for PBS to determine the accuracy of conflicting information, and this determination is pursued at the environmental professional's discretion.

10.2 Limitations and Exceptions

Unless noted elsewhere in this proposal, the scope of work for the project does not address a number of potentially significant environmental issues including, but not limited to, hazardous materials audit, environmental compliance, vapor encroachment assessment per ASTM standard E2600-10, formaldehyde, radon, asbestos-containing building materials, PCBs, lead-containing paint, mold, wetlands and other land use issues, drinking water quality, geotechnical or geologic hazards, nor does it include subsurface exploration or chemical screening of soil and groundwater beneath the subject property.

Recognized environmental conditions are defined in paragraph 3.2.78 of ASTM E1527-13 and the complete text is included in the glossary of this document. The vague and ambiguous nature of recognized environmental conditions as defined by the ASTM standard may result in reasonable minds differing as to whether any observed condition at a site is a recognized environmental condition. There may be other conditions noted in this report that could be considered recognized environmental conditions by other persons. Accordingly, the Client is advised that no warranty is given that other experts may agree that site conditions noted herein are recognized environmental conditions. Users of this report are encouraged to review the report in its entirety and specifically to consider all site conditions described and not merely those classified herein as recognized environmental conditions.

When an assessment is completed without surface exploration or chemical screening of soil and groundwater beneath the subject property, as in this study, no statement of scientific certainty can be made regarding latent subsurface conditions that may be the result of on-site or off-site sources. PBS is not able to represent that the Site or adjoining land contains no hazardous substances including petroleum, or other latent conditions beyond that identified by PBS during the study. The possibility always exists for contaminants to migrate undetected through surface water, air, soil, soil gas, or groundwater. The ability to accurately address the environmental risk associated with transport in these media is beyond the scope of this study.

The findings and conclusions of this report are not scientific certainties, but are based on professional judgment concerning the significance of the data gathered during the course of the Phase I ESA. The conclusions in this report are not to be considered a legal opinion or advice as to the Client's duty concerning due diligence and all appropriate inquiry relating to potential liabilities in leasing, owning, or purchasing real estate.

The ASTM method does not require a search interval of fewer than five years; this search interval is not guaranteed to identify all prior tenants or occupants of the subject property (please refer to the table in section 4.1 Standard Historical Resources for search intervals achieved for this report.) The PBS investigator reviewed sources that are publicly available, available within a reasonable time and cost, and reasonably ascertainable and considered practically reviewable, as defined under the ASTM standard. In addition, these criteria are applied keeping in mind sources that are likely to provide information concerning possible recognized environmental conditions at the subject property. PBS has reviewed sources of information that we consider meeting these criteria. In cases where the history of the subject property is not traced prior to its first-developed use, this condition is considered a data failure and not an exception to the required scope of work. If the data failure represents a significant data gap, this will be discussed in the report.

10.3 Data Gaps

A data gap results from a lack of, or inability to, obtain information required by the ASTM method, despite good faith efforts to gather such information. Our report identifies and comments on significant data gaps that have affected our ability to identify recognized environmental conditions.

10.4 Client Reliance

PBS acknowledges that only the Client (User of the report) may rely upon the information, findings, opinions, and conclusions set forth in this report, subject to the conditions and limitations contained in this report, and as set forth in our contract. This report is for the exclusive use of the User and is not to be relied upon by other parties unless specifically indicated. Reliance on this report by other parties will require a fee from those parties, and a written agreement from PBS, and will be subject to the same conditions and limitations contained in the contract between PBS and the User. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

This report was prepared with the standard of care and skill ordinarily recognized under similar circumstances by members of its profession in the state and region at the time the services are performed. No warranties, expressed or implied, are made.

This report provides information on the subject property only as specified in the scope of work based on conditions at the time of the study. Additional information may become available that differs significantly from our understanding of conditions presented in this report. If this occurs, we request that this information be brought to our attention so that we may reassess the conclusions provided herein.

11 RESOURCES

11.1 References

Many references, primarily internet-based and governmental resources, are cited within the text of this report and are not repeated on this page.

11.2 Glossary

Note: Definitions without a specific citation are derived from PBS project and industry experience.

Abandoned Property. A property that can be presumed to be deserted, or an intent to relinquish possession or control can be inferred from the general disrepair or lack of activity thereon such that a reasonable person could believe that there was an intent on the part of the current owner to surrender rights to the property. (ASTM E1527-13, Section 3.2.1)

Activity and Use Limitations (AULs). Legal (institutional) or physical (engineering) restrictions or limitations on the use of, or access to, a site or facility, to reduce or eliminate potential exposure to hazardous substances or petroleum products in soil or groundwater, or to prevent activities that could interfere with the effectiveness of a response action in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil or ground water on the property. (ASTM E1527-13, Section 3.2.2)

Adjoining Properties. Any real property or properties the border of which is contiguous or partially contiguous with that of the property, or that would be contiguous or partially contiguous with the property but for a street, road, or other public thoroughfare separating them. (ASTM E1527-13, Section 3.2.4)

All Appropriate Inquiry (AAI). That inquiry constituting “All Appropriate Inquiry” into the previous ownership and uses of the property consistent with good commercial or customary practice, as defined in CERCLA, 42 U.S.C. §9601(35)(B), that will qualify a party to a commercial real estate transaction for one of the threshold criteria for satisfying the LLPs to the CERCLA liability (42 U.S.C. §9601(35)(A)&(B), §9607 (b)(3), §9607(q); and §9607(r)), assuming compliance with other elements of the defense. (ASTM E1527-13, Section 3.2.6)

Approximate Minimum Search Distance. The area for which records must be obtained and reviewed pursuant to Section 8 of ASTM Standard Practice E1527-13 subject to the limitations provided in that section. This may include areas outside the property and shall be measured from the nearest property boundary. This term is used in lieu of radius to include irregularly shaped properties. (ASTM E1527-13, Section 3.2.7)

Business Environmental Risk. A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations some of which are identified in the report (ASTM E1527-13, Section 3.2.11)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), 42 USC 9601 et seq. (ASTM E1527-13, Section 3.3.2)

Contaminated Aquifer Policy: Oregon and Washington environmental agencies will not hold a property owner liable for groundwater contamination that has migrated from an upgradient property. This indemnity is granted under the assumption that the property owner is not responsible for the release of the contamination, is not financially associated with the property from which the contamination originated, and did nothing to exacerbate the problem. Certain restrictions might be placed on the use of groundwater on the site (such as an irrigation or drinking water well could not be installed on the property). The property owner should ensure that the contamination does not present a health risk to on-site occupants. (5/20/04 DEQ Contaminated Aquifer policy, Washington RCW 70.105D.020(17)(iii)F(iv))

Continuing Obligations. After completion of an AAI-compliant Phase I ESA, there are continuing obligations of the User required under 2002 Brownfields Amendment to maintain landowner liability protections. These include:

1. Complying with land use restrictions and not impeding the effectiveness or integrity of institutional controls.
2. Taking “reasonable steps” with respect to hazardous substances affecting a landowner’s property to stop continuing releases, prevent threatened future releases, and prevent exposure to earlier releases.
3. Providing cooperation, assistance, and access to the EPA, a state, or other party conducing response actions or natural resource restoration at the property.
4. Complying with CERCLA information requests and administrative subpoenas.
5. Providing legally required notices relating to the discovery or release of hazardous substances on the property (40 CFR Par 312, Section II – Background, Item D).

Controlled Recognized Environmental Condition (CREC). A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). (See ASTM Note 2.) A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report. (See ASTM Note 3.) (ASTM E1527-13, Section 3.2.18)

ASTM Note 2: For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a controlled recognized environmental condition. The “control” is represented by the restriction that the property use remains commercial.

ASTM Note 3: A condition identified as a controlled recognized environmental condition does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Data Failure. A failure to achieve the historical research objectives in Section 8.3.1 through 8.3.2.2 of ASTM E1527-13 even after reviewing standard historical sources in 8.3.4.1 through 8.3.4.8 of ASTM E1527-13 that are reasonably ascertainable and likely to be useful. Data failure is a type of data gap. (ASTM E1527-13, Section 3.2.20)

Data Gap. A lack of, or inability to obtain required information by ASTM E1527-13 despite good faith efforts to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc). The report will identify and comment on significant data gaps that affect the ability of the EP to identify recognized environmental conditions. (ASTM E1527-13, Section 3.2.21)

***De minimis* Condition.** Condition that generally does not present a material risk of harm to public health or the environment or that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

Environmental Professional. A person meeting the education, training, and experience requirements set forth in 40 CFR §312.10(b). That person may be an independent contractor or an employee of the User. (ASTM E1527-13, Section 3.2.32)

Hazardous Substance. A substance defined as a hazardous substance pursuant to CERCLA 42 USC §9601 (14), as interpreted by EPA regulations and the courts: "(A) any substance designated pursuant to Section 1321 (b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of this title, (C) any hazardous waste having the characteristics identified under or pursuant to Section 3001 of the Solid Waste Disposal Act (42 USC 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC §9601 et seq.) has been suspended by act of Congress), (D) any toxic pollutant listed under Section 1317(a) of Title 33, (E) any hazardous air pollutant listed under Section 112 of the Clean Air Act (42 §USC 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the administrator (of EPA) has taken action pursuant to Section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)." (ASTM E1527-13, Section 3.2.39)

PBS Note: The term hazardous substances, as it is used in this report, describes both hazardous substances and petroleum products. It does not include hazardous building materials.

Historical Recognized Environmental Condition (HREC). A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition. (ASTM E1527-13, Section 3.2.42)

Landowner Liability Protections (LLPs). Landowner liability protections provided under CERCLA; these protections include the bona fide prospective purchaser liability protection, contiguous property owner liability projection, and innocent landowner defense from CERCLA liability. See 42 U.S.C. §§ 9601(35)(A), 9601(40), 9607(b), 9607(q), 9607(r). (ASTM E1527-13, Section 3.2.49)

Other Issues of Concern. Issues that could potentially result in adverse environmental impacts to the subject property. They are not included as recognized environmental conditions because insufficient evidence was collected during the course of this study to come to the conclusion that the condition(s) has resulted in the "presence or likely presence" of contamination to soil and/or groundwater on the subject property.

Petroleum Products. Those substances included within the meaning of the petroleum exclusion to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and EPA; that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under Subparagraphs (A) through (F) of 42 U.S.C. § 9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (The word fraction refers to certain distillates of crude oil, including gasoline, kerosene, diesel oil, jet fuels, and fuel oil, pursuant to Standard Definitions of Petroleum Statistics.) (ASTM E1527-13, Section 3.2.65)

Practically Reviewable. Information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the User can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most databases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. Listings in publicly available records which do not have adequate address information to be located geographically are not generally considered practically reviewable. For large databases with numerous records (such as RCRA hazardous waste generators and registered underground storage tanks), the records are not practically reviewable unless they can be obtained from the source agency in the smaller geographic area of zip codes. Even when information is provided by zip code for some large databases, it is common for an unmanageable number of sites to be identified within a given zip code. In these cases, it is not necessary to review the impact of all of the sites that are likely to be listed in any given zip code because that information would not be practically reviewable. In other words, when so much data is generated that it cannot be feasibly reviewed for its impact on the property, it is not practically reviewable. (ASTM E1527-13, Section 3.2.69)

Publicly Available. Information that is publicly available means that the source of the information allows access to the information by anyone upon request. (ASTM E1527-13, Section 3.2.72)

Reasonably Ascertainable. Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable. (ASTM E1527-13, Section 3.2.77)

Recognized Environmental Condition (REC). The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions. (ASTM E1527-13, Section 3.2.78)

Subject Property (ASTM standard uses the term Property). The real property that is the subject of this Environmental Site Assessment. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land. (ASTM E1527-13, Section 3.2.70)

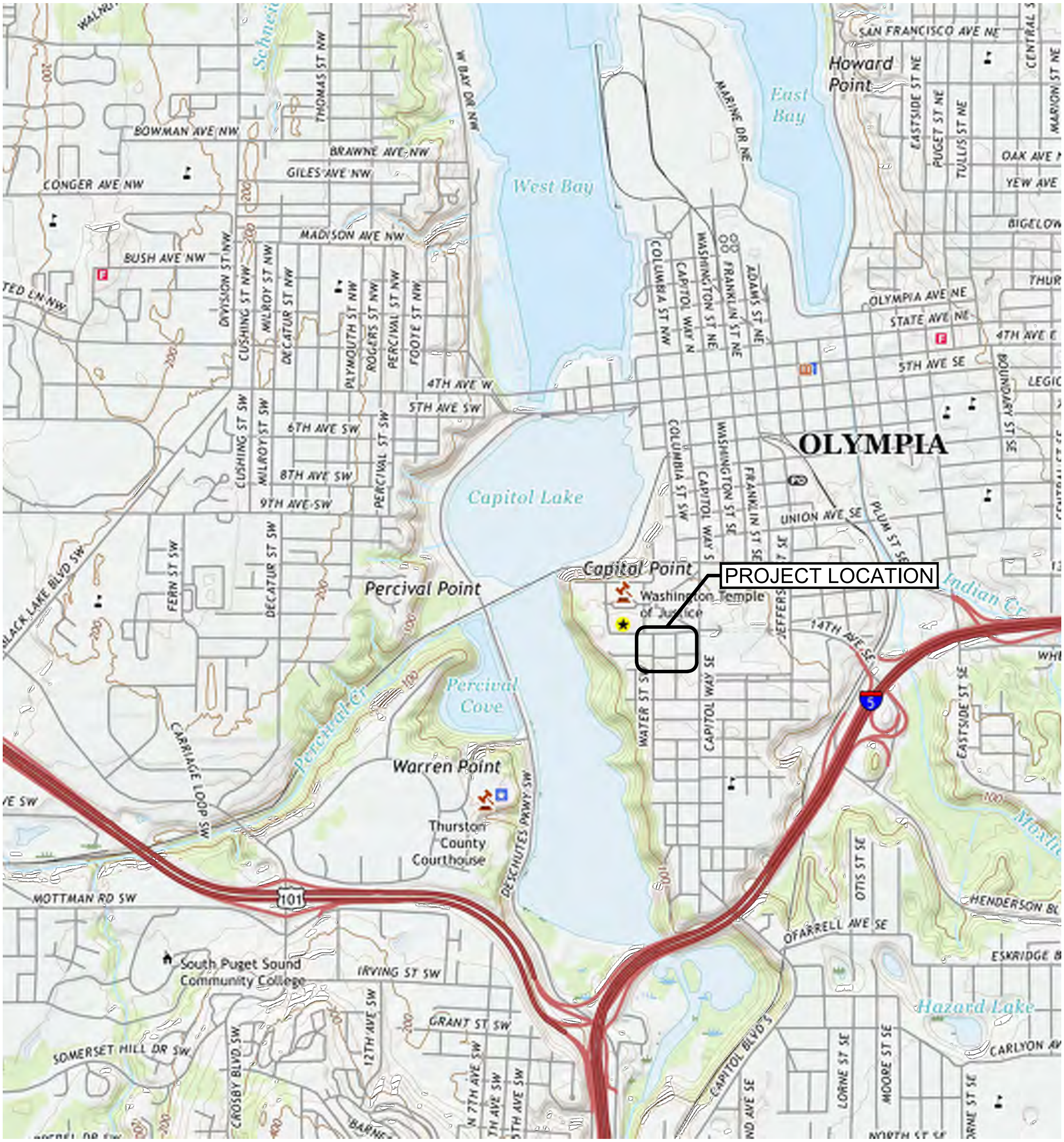
User. The party seeking to use ASTM Practice E1527 to complete an Environmental Site Assessment of the property. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The User has specific obligations for completing a successful application of this practice as outlined in Section 6 of Practice E1527. (ASTM E1527-13, Section 3.2.98)

11.3 Cross Reference for ASTM E1527-13 Requirements

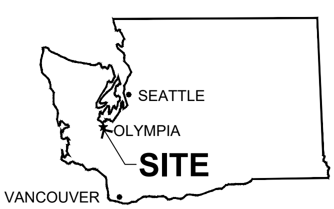
This table provides an easy cross reference for ensuring that the PBS Phase I ESA report complies with ASTM E1527-13. The ASTM recommended format is found in Appendix X4 of the standard.

ASTM Recommended Format	Provided in PBS Report Page/Section Number
X4.1 Summary	Executive Summary
X4.2 Introduction	Sections 1 and 2
X4.3 User Provided Information	Sections 1, 4 and 6, Appendix F
X4.4 Records Review	Sections 3 and 4, Appendices B, C, and D
X4.5 Site Reconnaissance	Section 5, Appendix E
X4.6 Interviews	Section 6
X4.7 Evaluation	Section 8
X4.8 Non-Scope Services	7
X4.9 Appendices	Appendices A, B, C, D, E, and F

Figures



SOURCE: USGS TUMWATER, WA QUADRANGLE 2020.



WASHINGTON

Scale 1" = 2000'

0' 1000' 2000' 4000'

PREPARED FOR: DES

PBS

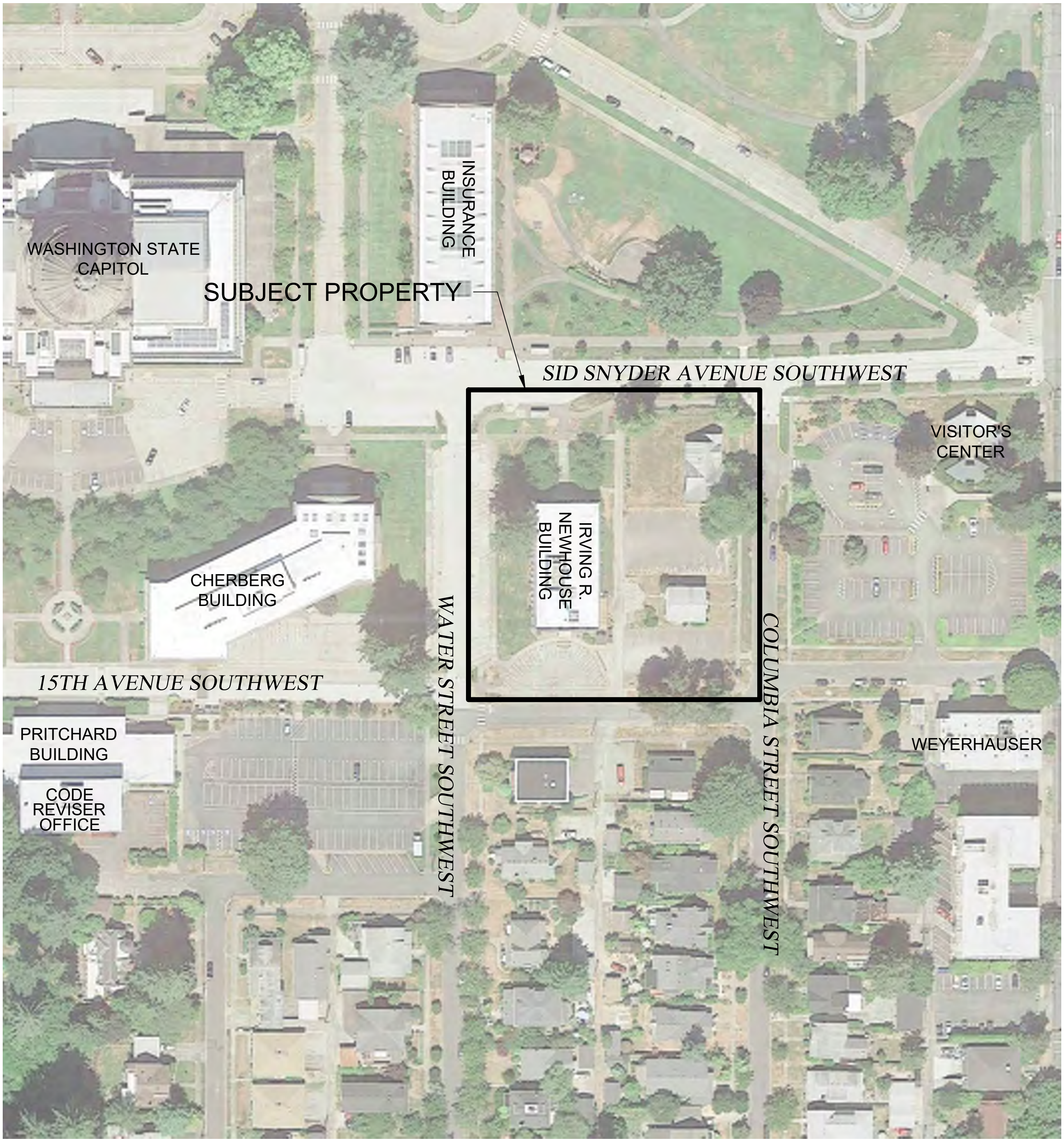
VICINITY MAP

215 SID SNYDER AVENUE SOUTHWEST
OLYMPIA, WASHINGTON

AUG 2020
40535.465

FIGURE
1

Filename: L:\Projects\40500\40535 WADOGA\40535.400-499\40535.465 Newhouse Building\DWG\40535.465_Fig_1-2.dwg Layout Tab: VICINITY MAP User: Katie Breyman CAD Plot Date/Time: 8/6/2020 6:35:06 PM



SOURCE: © 2019 GOOGLE EARTH PRO

Scale 1" = 150'

0' 75' 150' 300'

PREPARED FOR: DES

PBS

SITE PLAN

215 SID SNYDER AVENUE SOUTHWEST
OLYMPIA, WASHINGTON

AUG 2020
40535.465

FIGURE
2

EXCERPT FROM PHASE 1 ESA OF PRITCHARD BUILDING - APPENDIX DOCUMENTS NOT INCLUDED

Phase I
Environmental Site Assessment

State of Washington Pritchard Building
415 15th Avenue Southwest
Olympia, Washington 98501

Prepared for:

Washington State Department of Enterprise Services
1500 Jefferson Street
Olympia, Washington 98504

August 13, 2020
PBS Project 40535.464

PBS
214 E GALER STREET, SUITE 300
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206.233.9639 MAIN
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Regulatory Database Report

Appendix D: Historical Research Records
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Topographic Maps
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Property Owner/Representative Questionnaire

Abbreviations

The following are commonly used abbreviations in PBS Phase I Environmental Site Assessment reports. Abbreviations are defined upon first use within the text.

AAI	all appropriate inquiry
ACBM	asbestos-containing building material
ACM	asbestos-containing material
AST	aboveground storage tank
ASTM	ASTM International (formerly American Society for Testing and Materials)
AUL	activity and use limitation
bgs	below ground surface (depth below the ground surface)
CEG	conditionally exempt generator (of hazardous waste)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (EPA)
CREC	controlled recognized environmental condition
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources (a regulatory database report provider)
EPA	Environmental Protection Agency
ESA	environmental site assessment
HOT	heating oil tank
HREC	historical recognized environmental condition
LCP	lead-containing paint
LQG	large-quantity generator (of hazardous waste)
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram (equivalent to ppm)
MTCA	Model Toxics Control Act (Washington State)
NFA	No Further Action determination (Ecology)
NLR	no longer reporting
NonGen	non-generator of hazardous waste
PBS	PBS Engineering and Environmental Inc.
PCB	polychlorinated biphenyls
ppm	parts per million (equivalent to mg/kg)
RCRA	Resource Conservation and Recovery Act (EPA)
REC	recognized environmental condition
SQG	small-quantity generator (of hazardous waste)
USGS	United States Geological Survey
UST	underground storage tank

Executive Summary

A Phase I Environmental Site Assessment was conducted by PBS Engineering and Environmental Inc. (PBS) for the property (Site or subject property) located at 415 15th Avenue Southwest in Olympia, Washington. The assessment was conducted for The Washington State Department of Enterprise Services (Client). This assessment was performed in general compliance with the ASTM International E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the Environmental Protection Agency (EPA) in November 2013, for conducting all appropriate inquiries (AAI).

This report should be read in its entirety (text and attachments) before decisions are made based on the findings provided in the Executive Summary. PBS is not responsible for utilization of less than the complete report.

Site Description and History

The Site is a 32,500-square-foot property spanning several assessor's parcels occupied by a four-story office building and library constructed in 1958. Current tenants are Washington State Government employees. No manufacturing occurs on the subject property. The building is heated by steam from a central boiler plant on the Washington State Capitol Campus. Exterior areas include landscaping and paved parking.

Regulatory Review

EPA and state environmental databases were reviewed to identify sites that pose a potential environmental concern to the subject property. The subject property appears on the Washington State Department of Labor and Industries ASBESTOS database due to abatement of asbestos containing materials. Based on a review of the listed sites, none appear to pose a significant environmental concern to the subject property.

Findings and Opinion

This Phase I ESA identified the following:

1. A 125-gallon above ground storage tank (AST) storing diesel fuel for a generator is present at the subject property. No evidence of leaks or spills from the AST was observed. PBS considers the AST to be of low environmental concern to the subject property.
2. Two USTs are reported to be present on the north adjacent property at the O'Brien and Cherberg Buildings. The client indicated that both USTs are regulated by the Washington State Department of Ecology (Ecology), although records were only available for the UST at the O'Brien Building on Ecology's online UST database.[1] Given the proximity of the USTs and their cross to upgradient location, PBS considers this to be of moderate environmental concern to the subject property.
3. The Washington Governor's Mansion was found to have a confirmed release of petroleum products from a UST. Given the NFA status issued to the site and its cross-gradient location 460 to the northwest, PBS does not consider this to present an environmental concern to the subject property.
4. The site at 317 17th Avenue SW was found to have a confirmed release of petroleum products from a UST. Given its distance from the subject property and its cross- to downgradient location, PBS does not consider this to present an environmental concern to the subject property.
5. Other sites discussed in section 3.2 of this report are greater than 500 feet away from the subject property. PBS does not consider these sites to present an environmental concern to the subject property.

[1] https://apps.ecology.wa.gov/tcpwebreporting/reports/ust

Recognized Environmental Conditions (RECs), Including Controlled RECs (CRECs)

PBS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13 of in , the subject property. Any exemptions to, or deletions from, this practice are described in section 1 of this report. This assessment has revealed no evidence of RECs in connection with the property. This assessment has revealed no evidence of RECs in connection with the property.

Data Gaps

No data gaps were identified during this study.

Additional Investigation

Additional investigation prior to property redevelopment is not warranted. Monitoring for contaminants should be conducted during intrusive earthwork along the northern property boundary to assess the potential for migration of petroleum contaminants from USTs on the north adjacent property.

1 PROJECT AND REPORT INFORMATION

1.1 PBS Client Information

PBS Engineering and Environmental Inc. (PBS) conducted this assessment for (Client). The Client is considered the User, as defined by ASTM International Standard E1527-13.

This Phase I Environmental Site Assessment has been requested by prior to redevelopment of the subject property. This assessment was performed in general compliance with ASTM International's E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the Environmental Protection Agency (EPA) in November 2013, for conducting all appropriate inquiries (AAI).

1.2 Report Purpose

A Phase I Environmental Site Assessment (ESA) was conducted by PBS for the property located at 415 15th Avenue Southwest in Olympia, Washington (Site or subject property). The purpose of the Phase I ESA was to identify recognized environmental conditions associated with the subject property, and to assess the likelihood that contamination from hazardous substances or petroleum products may exist on the Site either from past or present use of the subject property or nearby properties. This study is intended to reduce, not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with the subject property, within reasonable limits of time and cost.

The purpose of this study is to conduct an all appropriate inquiry into the current and previous ownership and uses of the subject property consistent with good commercial or customary practice. In so doing, the Client may qualify for one of three Landowner Liability Protections (LLP) that limit Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. The Client must fulfill associated continuing obligations in order to maintain LLP status.

1.3 Scope of Work

The assessment was performed in general compliance with the ASTM International (ASTM) E1527-13 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved by the EPA in November 2013. Unless noted in section 1.6 Special Terms and Conditions, the scope of work for the project included the following:

1. Identifying and visually surveying the subject property for the presence of hazardous substances and petroleum products.
2. Obtaining information from the Client through a completed disclosure questionnaire and a review of a title report, if provided by the Client.
3. Reviewing federal, state, tribal, and local agency listings using a commercial database search provider, including activity and use limitations.
4. Reviewing historical maps, historical occupant records, and the nature of past property usage.
5. Reviewing readily available soils, geology, or environmental reports for the subject property or subject property vicinity.
6. Interviewing persons knowledgeable about the subject property, including current and previous owners.
7. Preparing the report summarizing any observations, sources used, findings, conclusions, and opinions relating to the presence or likely presence of hazardous substances or petroleum products on the subject property, including the potential for contaminants migrating to the subject property from an off-site location.

This assessment considers business environmental risks (see section 11.2 Glossary) that are not recognized environmental conditions unless the Client specifically requests otherwise. Please refer to the PBS Proposal to Provide a Phase I Environmental Site Assessment/Contract, Appendix A, for a detailed description of our scope of work.

PBS has prepared this report using information that is reasonably ascertainable; that is, information that is practically reviewable, publicly available, and obtainable from its source within reasonable time and cost constraints.

1.4 Conformance with ASTM E1527-13

This report has been formatted to maximize reader usability and comprehension. This report conforms to the requirements of ASTM E1527-13, and items indicated in Appendix X4 of the standard are included. Section 11 provides a cross-reference table that allows the reader to confirm conformance.

1.5 Non-ASTM Method Scope of Work

Non-ASTM method issues such as asbestos, lead-containing paint, wetlands, indoor air quality were not addressed during this study.

1.6 Special Terms and Conditions

The standard PBS Terms and Conditions are included in the PBS Proposal to Provide a Phase I Environmental Site Assessment/Contract in Appendix A; there are no special terms and conditions.

1.7 Client-Imposed Limitations

The Client did not impose limitations on PBS while completing this report.

2 PROPERTY INFORMATION AND PHYSICAL SETTING

2.1 Site Description

Site Address:	415 15th Avenue Southwest, Olympia, Washington 98501
Tax Lot:	Thurston County Assessor IDs 09850005000, 38600600100, & 45100000100
Township, Range, Section:	Township 18N Range 2W, SE ¼ of SW ¼ of Section 47, Willamette Base and Meridian
Size:	Approximately 1.8 acres or 79,000 square feet
Current Use:	State Government Office

Tax lot information was obtained from the Thurston County online maps resource[2] on August 4, 2020.

A Site Vicinity Map and Site Plan are included with this report under Figures. The Property spans several Thurston County Assessor's parcels and easements. A copy of the county assessor's tax map is included in Appendix B.

2.2 Owner and Occupant(s)

Current Owner:	Washington Department of Enterprise Services
Previous Owner:	Unknown
Property Manager:	Washington Department of Enterprise Services
Current Occupant(s):	Washington State Government Offices

2.3 Topography and Surface Features

The US Geological Survey 7.5-minute topographic map (Tumwater Quadrangle, 2014; see Figure 1) for the Site indicates that the property lies on relatively flat land with a steep slope immediately to the southwest, sloping west southwest toward Capitol Lake. The subject property elevation is approximately 120 feet above mean sea level.

The topographic map indicated that the nearest surface water Capitol Lake is located approximately 500 feet west from the subject property.

2.4 Groundwater Well/Borehole Records

The Washington State Department of Ecology's (Ecology) well log database[3] provides logs for water wells, monitoring wells, and geotechnical borings along with decommissioned well reports and other records. This database was reviewed by PBS on August 5, 2020. The following representative nearby well logs were identified: BBR529 through BBR 531, BBK588 through BBK589, B-1 through B-8, BAM-129 through BAM-132, and wells number 1 through 6. Well and soil boring logs indicate that borings were advanced in silt with beds of silty sand, gravel and clay. Records for the nearby wells indicate that groundwater was not encountered at depths up to 100 feet below ground surface (bgs). Copies of the reviewed logs are included in Appendix B.

Based on topography, the direction of shallow unconfined groundwater flow is expected to be toward the west southwest; therefore, properties to the east and northeast are considered upgradient to the subject property.

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[2] http://www.kingcounty.gov/operations/GIS/Maps/iMAP.aspx
[3] https://appswr.ecology.wa.gov/wellconstruction/map/WCLSWebMap/default.aspx

3 GOVERNMENTAL AND REGULATORY RECORDS REVIEW

3.1 Government Record Sources

Washington State Department of Ecology (Ecology) Online Facility Profiler

Ecology maintains an online database[4] of state cleanup and federal Superfund sites, hazardous waste generators, underground storage tanks (USTs), solid waste facilities, and other environmental concerns. This website was reviewed by PBS on August 4, 2020. The subject property was not listed. No adjoining or nearby properties were listed other than those identified by the environmental database search (see section 3.2).

Local Fire Department

The City of Seattle Fire Department keeps records of permits for USTs from 1996 through the present, as well as spills or hazardous materials incidents. Information was requested regarding past activity at the subject property.

PBS submitted a public records request with the City of Olympia's Records Request Center[5] on August 4, 2020. PBS did not receive a response by the issuance date of this report.

Underground Injection Controls (UICs)

Ecology maintains an online database for registered underground injection controls (UICs.)[6] This database was reviewed by PBS on August 4, 2020. No records of UICs were on file for the subject property or adjacent properties.

Other Government Records

No other local government records were reviewed for this assessment.

3.2 Standard Environmental Record Sources

A search of EPA, state, and tribal environmental database listings was performed by a commercial database search provider (a copy of the database search report is included in Appendix C). The purpose of this search was to identify potential, suspected, or known sources of contamination on or in the area of the subject property. Various agency listings were searched for different approximate minimum search distances from the subject property as established in the ASTM method. Listings included publicly available databases of environmental liens, activity and use limitations, and easements and equitable servitudes, if recorded or filed.

If the Site and/or adjacent properties are identified in the regulatory database report, the information is summarized below. Regulatory data for surrounding properties that may pose a potential risk to the subject property are also included. Other properties listed in the database report are not considered to be of environmental concern to the Site based on presumed groundwater flow direction, distance from the subject property, regulatory status (for example, the agency file is closed), or other physical factors.

The commercial database report may also include proprietary data derived from historical city directories. These can include historical dry cleaners/laundries and automobile stations (gas stations, automobile repair shops, auto body shops). These are non-regulatory listings and are included as historical information.

[4] https://apps.ecology.wa.gov/neighborhood/
[5] https://public-olympiawa.mycusthelp.com/WEBAPP/
[6] https://apps.ecology.wa.gov/uicsearch/

Subject Property

Address:	415 15th Avenue SW	Program #:	N/A
The subject property is listed on the Washington Department of Labor and Industries Asbestos Notification Listing Asbestos sites (ASBESTOS) database. The listing is due to the abatement of asbestos containing window putty on the roof in 2014 and pipe lagging in the basement hallway outside the mechanical room in 2017. It is presumed that demolition activities associated with redevelopment of the property having potential to disturb hazardous building materials will be performed in accordance with state and federal laws.			

Adjoining Properties

Address:	504 15th Avenue SW	Program #:	UST ID: 620046
Located northwest (cross gradient) of subject property			
The Washington Department of Enterprise Services O'Brien Building is listed on EPA's Facility Index System/Facility Registry System (FINDS) and Ecology's Underground Storage Tank (UST) and Facility/Site Identification System Listing (ALLSITES) databases. The listing is due to the presence of a UST on the property. A copy of the UST System Summary from Ecology's UST database is included in Appendix C. The property is also listed on the ASBESTOS database due to the presence of asbestos containing ducting and pipe insulation in the building. Given the proximity of the property to the subject property, the UST presents a moderate environmental concern to the subject property.			

Address:	304 15th Avenue SW	Program #:	USTID: 619350
Located northeast (upgradient) of subject property			
The Washington Department of Enterprise Services Cherberg Building is listed on Ecology's UST and ALLSITES databases due to the presence of a registered UST on the property. A copy of the UST System Summary was not available on Ecology's UST database. Given the proximity of the property to the subject property, the UST presents a moderate environmental concern to the subject property.			

Surrounding Properties

Address:	316 17th Avenue SW	Program #:	N/A
Located 346 feet south southeast (cross to downgradient) of subject property			
The residential property is listed on Ecology's Independent Cleanup Reports (ICR) database due to reported cleanup of petroleum products in soil related to a heating oil tank. This listing does not present an environmental risk to the subject property due to its distance and cross gradient location relative to the subject property.			

Address:	103 Sid Snyder Avenue SW	Program #:	N/A
Located 424 feet northeast (upgradient) of subject property			
The property is listed on Ecology's ALLSITES database due to the presence of underground utility drainage. No further information is available in the EDR report. This listing does not present an environmental risk to the subject property.			

Address:	501 13th Avenue SW	Program #:	N/A
Located 460 feet northwest (cross gradient) of subject property			
The Washington State Governor Mansion is listed on Ecology's ALLSITES and UST databases as well as state and tribal Leaking Underground Storage Tank (LUST) and Confirmed and Suspected Contaminated Sites List No Further Action (CSCSL NFA) databases. Listings of the property are due to a confirmed release of diesel and gasoline petroleum products to soil from an UST in 1992. Initial investigation conducted in 2012 indicated that concentrations of contaminants were below state cleanup levels. A No Further Action determination was granted to the property by Ecology based on the results of the initial investigation. This listing does not present an environmental risk to the subject property based on its cross-gradient location and No Further Action status.			

Address:	WA GA Central Steam Plant	Program #:	N/A
Located 632 feet northwest (cross to downgradient) of subject property			
The Washington GA Central Steam Plan, also known as the WA GA Powerhouse CB&G or Capitol Powerhouse is listed on Ecology's ALLSITES database. The address for the property is not provided in the EDR report but its location is inferred as the south end of Powerhouse Road SW from Google Maps. The listing is due to the discovery of subsurface petroleum contamination in 1992. During excavation of petroleum contaminated soil, two USTs were discovered, containing diesel and Bunker C fuel, respectively. The excavation was advanced below the water table, and a sheen was observed on groundwater encountered in the excavation. An estimated 215 cubic yards of petroleum contaminated soil were removed from the site. A 350,000 gallon above ground storage tank (AST) is also present at the property. Ecology completed a Site Hazard Assessment (SHA) for the property in 2011 and gave it a hazard ranking of 5, the maximum allowable hazard ranking. The SHA notes that Thurston County believes that existing documentation does not sufficiently characterize the extent of contamination in accordance with Ecology's Model Toxics Control Act (MTCA). Because the topographic elevation of the property is approximately 100 feet lower than that of the subject property, it is considered downgradient from the subject property with respect to groundwater flow. As such, this listing does not present an environmental risk to the subject property.			

Address:	WA State Senate Print	Program #:	N/A
Located 645 feet west (downgradient) of subject property			
The Washington State Senate Print is listed on Ecology's ALLSITES database. The address for the property is not provided in the EDR report, but is listed at B7 of the John A Cherberg Building, which is located to the northeast of the subject property, although the EDR lists the WA State Senate Print site as west of the subject property. No additional information is provided in the EDR report. This listing does not present an environmental risk to the subject property.			

Address:	210 11th Avenue SW #403	Program #:	N/A
Located 800 feet northeast (upgradient) of subject property			
The Washington State Department of Agriculture Federal Lab is listed on Ecology's ALLSITES database as well as EPA's Facility Index System/Facility Registry System (FINDS), Resource and Conservation Recovery Act Non Generators / No Longer Regulated (RCRA NonGen / NLR) and Enforcement & Compliance History Information (ECHO) databases. The site address is listed as 403 General Admin BLDG in the EDR report. The address provided above is inferred from the location of the General Administration building at 210 11th Avenue SW. The listings are due to the property being a non-generator of hazardous waste. This listing does not present an environmental risk to the subject property.			
Address:	210 11th Avenue SW	Program #:	WA UST# 3135
Located 1,034 feet northeast (upgradient) of subject property			
The WA GA UST 3135 Site is listed on Ecology's ALLSITES and UST and EPA's FINDS databases. The listings are due to a former UST used to store unleaded gasoline, which was removed from the property in 1996. There is no information regarding the performance of a site assessment during tank removal in the EDR report, or in Ecology's UST database records. PBS performed a Phase I ESA on the property in May 2020. The Phase I reported that an additional UST was installed in 1995 at the property. Both USTs were corrosion resistant and had several spill prevention controls indicating a release to the subsurface was unlikely. This listing presents a low environmental risk to the subject property.			

Address:	200 14th Avenue SE	Program #:	N/A
Located 885 feet east northeast (upgradient) of subject property			
The East Campus Plaza IV Construction Site is listed on Ecology's ALLSITES and EPA's Facility FINDS databases. No additional information about the property is provided in the EDR report. This listing does not present an environmental risk to the subject property.			

Address:	1115 Washington Street SE	Program #:	WA UST #9485
Located 1,171 feet east northeast (upgradient) of subject property			
The Washington Department of Enterprise Services East Plaza Garage Phase 5B / CB&G Office Building 2 site is listed on Ecology's ALLSITES, Financial Assurance Information Listing (Financial Assurance 1) and UST databases. The listings are due to a former UST used to store diesel fuel, which was removed from the property in 1996. There is no information regarding the performance of a site assessment during tank removal in the EDR report, or in Ecology's UST database records. This listing presents a low environmental risk to the subject property.			

Address:	12th and Franklin Streets	Program #:	N/A
Located 1,261 feet northeast (upgradient) of subject property			
The Washington Department of Enterprise Services Division of Capitol Facilities 2 site is listed on Ecology's ALLSITES and Hazardous Waste Manifest Data (MANIFEST) databases as well as EPAs RCRA Very Small Quantity Generator (RCRA VSQG) database. The listings are due to the property being registered as a conditionally exempt small quantity generator of hazardous waste. This listing presents a low environmental risk to the subject property.			

Unmappable Sites

The unmappable/orphan sites were reviewed on August 6, 2020. Based on the presumed location or reported regulatory status, unmappable sites listed on the EDR database report are considered to pose *de minimis* concern.[7]

[7] Unmappable sites are identified as "Non-Geocoded" or "Orphan" in the regulatory database report. They are categorized this way because inaccurate or incomplete site addresses prevented mapping by the database provider. PBS has reviewed and, in some cases, located these unmappable sites. Environmental risk associated with remaining unmappable sites could not be determined.

4 HISTORICAL RECORDS REVIEW

4.1 Standard Historical Sources

ASTM E1527-13 indicates that review of standard historical sources at less than approximately five-year intervals is not required by this practice. If the specific use of the property appears unchanged over a period longer than five years, then it is not required by this practice to research the use during that period.

The following standard sources were reviewed:

- Aerial photographs were obtained from EDR aerial photograph collection and Google Earth.
- Sanborn fire insurance maps were obtained from EDR's Sanborn Collection.
- Topographic maps were obtained from EDR Topographic Maps.

No other historical records were reviewed for this assessment.

The table below summarizes the information gathered from the sources listed above. Data obtained from other sources reviewed for this Phase I ESA may also be included in the following tables in order to identify potential historical data failures.

Copies of the reviewed records are included in Appendix D.

Year	Source	Description
1908	Sanborn map	Subject Property: The subject property is shown as Capitol Park Adjoining Properties: The south and east adjacent properties are shown as sparsely developed with single-family residential structures.
1924	Sanborn map	Subject Property: The subject property is shown as developed with four single-family residential structures. Adjoining Properties: The northwest and northeast adjacent properties are shown as undeveloped. Single family residences are shown on the east and south adjacent properties.
1937	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: The slope to Capitol Lake is shown to the west of the subject property.
1941	Aerial photograph	Subject Property: The single-family residential structures shown in the 1937 topographic map have been demolished and replaced with two structures on the eastern portion of the subject property. Adjoining Properties: The O'Brien and Cherberg Buildings are shown on the northwest and northeast adjacent properties, respectively. Single family residences are shown on the east and south adjacent properties. The forested slope to Capitol Lake is shown to the west of the subject property.

Year	Source	Description
1946 & 1947	Sanborn map	Subject Property: The two structures on the eastern portion of the subject property visible in the 1941 aerial photograph are not depicted in the 1946 and 1947 Sanborn maps. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1949	Topographic map	Subject Property: The two structures on the eastern portion of the subject property are no longer shown, and the subject property has been developed as a parking lot. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1953	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1957	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1959	Topographic map	Subject Property: The Pritchard Building is shown on the subject property. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1968	Aerial photograph, topographic map & Sanborn map	Subject Property: The Pritchard Building and parking lot to the east are shown on the subject property. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1973	Aerial photograph & topographic map	Subject Property: The subject property is not visible in the 1973 aerial photograph due to obstructions from the scanning of the photograph. Adjoining Properties: Adjacent properties are not visible in the 1973 aerial photograph due to obstructions from the scanning of the photograph.
1974	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1976	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1980	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.

Year	Source	Description
1981	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1990	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1991	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1994	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
1997	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2003	Aerial Photograph (Google Earth)	Subject Property: Two buildings have been constructed on the eastern portion of the subject property as shown in the 2006 aerial photograph. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2006	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2009	Aerial photograph	Subject Property: The two buildings on the eastern portion of the subject property visible in the 2006 aerial photograph have been removed, and a parking lot is shown in their place in the 2009 aerial photograph. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2013	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2014	Topographic map	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.
2017	Aerial photograph	Subject Property: No significant changes to the subject property are apparent. Adjoining Properties: No significant changes to the adjacent properties are apparent.

Summary of Property Use from Historical Sources

The subject property was occupied by Capitol Park by 1908. Four single-family residential structures had been constructed on the subject property by 1924. By 1941, the single-family structures on the subject property had been demolished giving way to two larger buildings on the eastern portion of the property. By 1946 the two structures on the eastern portion of the property had been demolished, and the subject property was used as a parking lot. By 1959 the Pritchard Building was constructed on the subject property, operating as a State Library. By 2003 two structures had been constructed in the place of the former parking lot on the eastern portion of the subject property. These two structures were demolished and replaced with another parking lot by 2009. The subject property has remained in it’s current form from 2009 to present.

By 1908 the adjoining properties to the south and east had been developed with single-family residences. The northwest and northeast adjacent properties remained undeveloped until 1941, at which time the O’Brien and Cherberg Buildings had been constructed. Adjoining properties remained developed with their 1941 structures from 1941 to present.

4.2 City Directories

City directories were searched using EDR. A listing of the directory listings is included in Appendix D. A summary of the findings is presented below.

The historical directories did not identify listings of potential concern at adjacent properties with the exception of Affordable Pest Management listed in the 2000 to 2017 city directories at the property adjacent and northwest of the subject property. This adjacent property is located hydraulically cross gradient of the subject property. The business does not appear in any of the government databases reviewed for this assessment relating to environmental or hazardous materials concerns. As such, this city directory listing does not present a concern to the subject property.

4.3 Previous Environmental Assessments

No previous environmental assessments were identified by PBS for the subject property.

4.4 Activity and Use Limitations

PBS did not identify environmental liens, activity and use limitations (AULs), or easements and equitable servitudes on the subject property during this study.

4.5 Data Failure

Data failure was encountered while conducting the historical research for this Phase I ESA report. Data failure occurs when the standard historical sources reasonably ascertainable and likely to be useful have been reviewed, but the objectives in ASTM E1527-13 Sections 8.3.1 through 8.3.2.2 have not been met. If the data failure represents a significant data gap, the impact of this data gap shall be discussed in section 8.1 of this Phase I ESA report.

The following data failure occurred:

- Several time periods exist for which data could not be gathered every five years (see source tables above). Section 8.3.2.1 of ASTM E1527-13 indicates that if the specific use of the property appears unchanged over a period longer than five years, then research of its use during that period is not required. PBS does not view this data failure as a significant data gap and the data failure does not change the conclusions or opinion of PBS as stated in this Phase I ESA.

5 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by James Welles, Project Geologist, PBS environmental professional (EP), on August 3, 2020 to observe and document site conditions and visible indications of existing environmental conditions. The reconnaissance was performed accompanied by Majid Jamali, Project Manager with the Washington State Department of Enterprise Services.

The entirety of the basement, first, third and fourth floors and roof of the subject property were accessed. Approximately 10% of individual offices on the 2nd floor were accessed. Not all offices were accessed to avoid disturbing occupants.

Photographs of the Site are included in Appendix E.

5.2 Site and Vicinity General Characteristics

The subject property is 1.8 acres spanning several assessor's parcels and easements. The subject property is located on the Washington State Capitol Campus in southwest Olympia just east of Capitol Lake. The subject property is relatively flat with a steep slope immediately to the west descending to Capitol Lake. The western portion of the property is occupied by the Pritchard Building, with parking lots to the east and southeast.

Site Operations/Processes

The Site was originally used as the Washington State Library. The 3rd and 4th floors formerly storing books and public records are now vacant. The 1st and 2nd floors are now occupied by office space, and a kitchen and campus cafeteria. A photography studio is present in the basement.

Exterior Improvements

The primary entrance to the building is on the north end through the lobby. Parking is located to the east and southeast of the Pritchard Building.

Utilities

Water Supply:	State of Washington owned West Campus water system (obtains potable water from City of Olympia)
Sewage System:	State of Washington owned sanitary sewer system (discharges to City of Olympia sanitary sewer system)
Stormwater:	State of Washington owned stormwater system (operates as secondary permittee to City of Olympia)
Heating Source:	Steam from Washington State Capitol Campus central boiler plant (off property)

5.3 Site Conditions and Observations

Aboveground and Underground Storage Tanks

A 125-gallon AST was observed on a concrete pad within a concrete enclosure on the west side of the property. The AST stores diesel fuel for an on-site generator. No USTs were observed on the subject property during site reconnaissance.

Drywells, Injection Wells, Septic Systems

None of these features were observed and/or known to be present on the subject property.

Floor Drains, Catch Basins, Sumps, Oil/Water Separators
Floor drains were observed in all restrooms within the Pritchard Building, as well as in the fire alarm room in the basement, and kitchen on the first floor adjacent to the cafeteria. No staining or evidence of spills was observed in or near the floor drains. Storm water catch basins were observed outside along the eastern and northern perimeter of the building, as well as in the parking lot on the eastern portion of the property.

Hazardous Substances, Petroleum Products, Unidentified Containers
None of these features were observed and/or known to be present on the subject property, with the exception of the AST prior noted in this section.

Improper Dumping/Solid Waste Disposal
No indications of improper solid waste disposal were observed during the site reconnaissance.

Pits, Ponds, Lagoons, Surface Impoundments
None of these features were observed on the subject property.

Polychlorinated Biphenyls (PCBs)
PCBs were once used in the manufacture of electrical equipment (transformers) and hydraulic fluids. Now considered hazardous substances under CERCLA rules, the manufacture of PCBs was banned in 1979. Examination or sampling of individual building components or fixtures for PCBs is not within the scope of the Phase I ESA.

Stains, Sheens, Odors
None of these conditions were observed on the subject property.

Wells
Water supply wells and monitoring wells were not observed on the subject property.

Other Conditions of Concern
No other conditions of concern were observed on the subject property during the site reconnaissance.

5.4 Observed Current Use of Adjoining Properties

North:	O'Brien and Cherberg Buildings, State Government Offices
South:	Single-family residential
East:	Multi-family residential
West:	Undeveloped land adjacent to Capitol Lake

These properties were viewed from the subject property or the nearest public right-of-way. A potential UST was observed to the northeast of the subject property, in the parking lot immediately south of the Cherberg Building.

6 INTERVIEWS

The section below summarizes information obtained from interviews and questionnaires completed by the Client/User, property owner, and/or other key personnel.

6.1 Interview with Client/User

The Client did not complete PBS' standard Client/User Questionnaire. This does not, however, change the opinion of PBS because the client is also the owner and did complete the Property Owner/Representative Questionnaire.

6.2 Interview with Owner

The PBS standard Property Owner/Representative Questionnaire was completed by Ms. Carrie R Martin, Environmental Planner with the Department of Enterprise Services, and is included in Appendix F. Mr. Majid Jamali with the Department of Enterprise Services was also interviewed in person on August 3, 2020. The interview and questionnaire are summarized as follows:

- Ms. Martin indicated that the subject property has an AST.
- Ms. Martin indicated that the Department of Enterprise Services owns most of vacated 16th Avenue to the south of the subject property. However, the property line is very close to a privately owned garage at 1601 Sylvester Street SW. A quite claim deed, easement and license are on record for this portion of the property.
- The hillside west of the subject property was part of a geotechnical evaluation and risk assessment and was found to have a medium to high risk of failure.
- Ms. Martin indicated that an indoor air quality analysis was performed on ducts at the subject property in 2013.
- Ms. Martin indicated that a good fait inspection for asbestos containing materials relating to duct cleaning at the building was performed in 2014.
- No knowledge of environmental liens against the subject property, or limitations of use related to environmental conditions were indicated in the Property Owner/Representative Questionnaire.
- Mr. Jamali indicated that the northwest and northeast adjacent properties, the O'Brien and Cherberg Buildings, respectively, both had USTs.

6.3 Interview with Previous Owner(s)

An interview with the previous owner was not completed. Based on available historical and regulatory information for the subject property, this does not impact the ability of PBS to identify recognized environmental conditions (RECs).

6.4 Interviews with Others

No other interviews were conducted for this report.

7 NON-SCOPE CONSIDERATIONS

Non-scope considerations are issues or conditions at the subject property that could pose a business risk to an owner or prospective purchaser but are not included in a standard Phase I ESA. PBS assesses non-scope considerations only when requested to do so by the Client.

There were no non-scope considerations requested by the Client.

8 EVALUATION

The sections below present the findings, opinion, and conclusions of this Phase I ESA.

8.1 Findings and Opinion

This Phase I ESA identified the following:

1. A 125-gallon AST storing diesel fuel for a generator is present at the subject property. No evidence of leaks or spills from the AST was observed. PBS considers the AST to be of low environmental concern to the subject property.
2. Two USTs are reported to be present on the north adjacent property at the O'Brien and Cherberg Buildings. The client indicated that both USTs are regulated by the Washington State Department of Ecology (Ecology), although records were only available for the UST at the O'Brien Building on Ecology's online UST database.[8] Given the proximity of the USTs and their cross to upgradient location, PBS considers this to be of moderate environmental concern to the subject property.
3. The Washington Governor's Mansion was found to have a confirmed release of petroleum products from a UST. Given the NFA status issued to the site and its cross-gradient location 460 to the northwest, PBS does not consider this to present an environmental concern to the subject property
4. The site at 317 17th Avenue SW was found to have a confirmed release of petroleum products from a UST. Given its distance from the subject property and its cross- to downgradient location, PBS does not consider this to present an environmental concern to the subject property.
5. Other sites discussed in section 3.2 of this report are greater than 500 feet away from the subject property. PBS does not consider these sites to present an environmental concern to the subject property.

8.2 Conclusions

PBS has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E-1527-13 of in , the subject property. Any exemptions to, or deletions from, this practice are described in section 1 of this report. This assessment has revealed no evidence of RECs in connection with the property. This assessment has revealed no evidence of RECs in connection with the property.

Data Gaps

No data gaps were identified during this study.

Additional Investigation

Additional investigation prior to property redevelopment is not warranted. Monitoring for contaminants should be conducted during intrusive earthwork along the northern property boundary to assess the potential for migration of petroleum contaminants from USTs on the north adjacent property.

[8] https://apps.ecology.wa.gov/tcpwebreporting/reports/ust

9 SIGNATURES

PBS respectfully submits the results of our Phase I Environmental Site Assessment. We appreciate the opportunity to provide our recommendations for your project. If you have additional concerns, please do not hesitate to contact us at (206) 233-9639.

Sincerely,
PBS Engineering and Environmental Inc.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Digitally signed by James Welles
Date: 2020.08.13 14:42:06 -07'00'

James Welles Date
PBS Project Geologist

Megan Nogeire

Digitally signed by Megan Nogeire
Date: 2020.08.13 15:01:12 -07'00'

Megan Nogeire Date
PBS Senior Project Manager

10 ASSUMPTIONS AND LIMITATIONS

10.1 Significant Assumptions

Client's Responsibilities

It is assumed that the User has provided PBS with title and lien records, actual knowledge of environmental liens or activity and use limitations encumbering the property, any specialized knowledge or experience material to recognized environmental conditions in connection with the property, any commonly known or reasonably ascertainable information material to recognized environmental conditions on the property, and the reason why the property may have a significantly lower purchase price than comparable properties, if applicable (User Responsibilities, ASTM E1527-13, Section 6.0).

It is further assumed that the Client will read this report in its entirety (text and attachments) before making decisions based on the findings of the report.

Groundwater Flow

Groundwater flow direction has been determined based on topography in the area of the subject property; the assumption is that shallow groundwater flow will follow topography. No site-specific field measurements of groundwater flow direction (such as installation of groundwater monitoring wells) have been performed.

Based on this interpretation, PBS has reviewed regulatory agency information for sites located in a presumed upgradient direction that, based on proximity and knowledge of potential contaminant fate and transport, may potentially impact the subject property.

Accuracy and Completeness

The public records search is performed by PBS with the understanding that such records may be inaccurate or incomplete, and that the ability of public agencies to retrieve records may be variable or inconsistent over time. Similarly, PBS interviews of knowledgeable persons are performed in good faith that information provided is reasonably accurate and truthful. It may not always be feasible or appropriate for PBS to determine the accuracy of conflicting information, and this determination is pursued at the environmental professional's discretion.

10.2 Limitations and Exceptions

Unless noted elsewhere in this proposal, the scope of work for the project does not address a number of potentially significant environmental issues including, but not limited to, hazardous materials audit, environmental compliance, vapor encroachment assessment per ASTM standard E2600-10, formaldehyde, radon, asbestos-containing building materials, PCBs, lead-containing paint, mold, wetlands and other land use issues, drinking water quality, geotechnical or geologic hazards, nor does it include subsurface exploration or chemical screening of soil and groundwater beneath the subject property.

Recognized environmental conditions are defined in paragraph 3.2.78 of ASTM E1527-13 and the complete text is included in the glossary of this document. The vague and ambiguous nature of recognized environmental conditions as defined by the ASTM standard may result in reasonable minds differing as to whether any observed condition at a site is a recognized environmental condition. There may be other conditions noted in this report that could be considered recognized environmental conditions by other persons. Accordingly, the Client is advised that no warranty is given that other experts may agree that site conditions noted herein are recognized environmental conditions. Users of this report are encouraged to review the report in its entirety and specifically to consider all site conditions described and not merely those classified herein as recognized environmental conditions.

When an assessment is completed without surface exploration or chemical screening of soil and groundwater beneath the subject property, as in this study, no statement of scientific certainty can be made regarding latent subsurface conditions that may be the result of on-site or off-site sources. PBS is not able to represent that the Site or adjoining land contains no hazardous substances including petroleum, or other latent conditions beyond that identified by PBS during the study. The possibility always exists for contaminants to migrate undetected through surface water, air, soil, soil gas, or groundwater. The ability to accurately address the environmental risk associated with transport in these media is beyond the scope of this study.

The findings and conclusions of this report are not scientific certainties, but are based on professional judgment concerning the significance of the data gathered during the course of the Phase I ESA. The conclusions in this report are not to be considered a legal opinion or advice as to the Client's duty concerning due diligence and all appropriate inquiry relating to potential liabilities in leasing, owning, or purchasing real estate.

The ASTM method does not require a search interval of fewer than five years; this search interval is not guaranteed to identify all prior tenants or occupants of the subject property (please refer to the table in section 4.1 Standard Historical Resources for search intervals achieved for this report.) The PBS investigator reviewed sources that are publicly available, available within a reasonable time and cost, and reasonably ascertainable and considered practically reviewable, as defined under the ASTM standard. In addition, these criteria are applied keeping in mind sources that are likely to provide information concerning possible recognized environmental conditions at the subject property. PBS has reviewed sources of information that we consider meeting these criteria. In cases where the history of the subject property is not traced prior to its first-developed use, this condition is considered a data failure and not an exception to the required scope of work. If the data failure represents a significant data gap, this will be discussed in the report.

10.3 Data Gaps

A data gap results from a lack of, or inability to, obtain information required by the ASTM method, despite good faith efforts to gather such information. Our report identifies and comments on significant data gaps that have affected our ability to identify recognized environmental conditions.

10.4 Client Reliance

PBS acknowledges that only the Client (User of the report) may rely upon the information, findings, opinions, and conclusions set forth in this report, subject to the conditions and limitations contained in this report, and as set forth in our contract. This report is for the exclusive use of the User and is not to be relied upon by other parties unless specifically indicated. Reliance on this report by other parties will require a fee from those parties, and a written agreement from PBS, and will be subject to the same conditions and limitations contained in the contract between PBS and the User. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

This report was prepared with the standard of care and skill ordinarily recognized under similar circumstances by members of its profession in the state and region at the time the services are performed. No warranties, expressed or implied, are made.

This report provides information on the subject property only as specified in the scope of work based on conditions at the time of the study. Additional information may become available that differs significantly from our understanding of conditions presented in this report. If this occurs, we request that this information be brought to our attention so that we may reassess the conclusions provided herein.

11 RESOURCES

11.1 References

Many references, primarily internet-based and governmental resources, are cited within the text of this report and are not repeated on this page.

11.2 Glossary

Note: Definitions without a specific citation are derived from PBS project and industry experience.

Abandoned Property. A property that can be presumed to be deserted, or an intent to relinquish possession or control can be inferred from the general disrepair or lack of activity thereon such that a reasonable person could believe that there was an intent on the part of the current owner to surrender rights to the property. (ASTM E1527-13, Section 3.2.1)

Activity and Use Limitations (AULs). Legal (institutional) or physical (engineering) restrictions or limitations on the use of, or access to, a site or facility, to reduce or eliminate potential exposure to hazardous substances or petroleum products in soil or groundwater, or to prevent activities that could interfere with the effectiveness of a response action in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls are intended to prevent adverse impacts to individuals or populations that may be exposed to hazardous substances and petroleum products in the soil or ground water on the property. (ASTM E1527-13, Section 3.2.2)

Adjoining Properties. Any real property or properties the border of which is contiguous or partially contiguous with that of the property, or that would be contiguous or partially contiguous with the property but for a street, road, or other public thoroughfare separating them. (ASTM E1527-13, Section 3.2.4)

All Appropriate Inquiry (AAI). That inquiry constituting "All Appropriate Inquiry" into the previous ownership and uses of the property consistent with good commercial or customary practice, as defined in CERCLA, 42 U.S.C. §9601(35)(B), that will qualify a party to a commercial real estate transaction for one of the threshold criteria for satisfying the LLPs to the CERCLA liability (42 U.S.C. §9601(35)(A)&(B), §9607 (b)(3), §9607(q); and §9607(r)), assuming compliance with other elements of the defense. (ASTM E1527-13, Section 3.2.6)

Approximate Minimum Search Distance. The area for which records must be obtained and reviewed pursuant to Section 8 of ASTM Standard Practice E1527-13 subject to the limitations provided in that section. This may include areas outside the property and shall be measured from the nearest property boundary. This term is used in lieu of radius to include irregularly shaped properties. (ASTM E1527-13, Section 3.2.7)

Business Environmental Risk. A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice. Consideration of business environmental risk issues may involve addressing one or more non-scope considerations some of which are identified in the report (ASTM E1527-13, Section 3.2.11)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), 42 USC 9601 et seq. (ASTM E1527-13, Section 3.3.2)

Contaminated Aquifer Policy: Oregon and Washington environmental agencies will not hold a property owner liable for groundwater contamination that has migrated from an upgradient property. This indemnity is granted under the assumption that the property owner is not responsible for the release of the contamination, is not financially associated with the property from which the contamination originated, and did nothing to exacerbate the problem. Certain restrictions might be placed on the use of groundwater on the site (such as an irrigation or drinking water well could not be installed on the property). The property owner should ensure that the contamination does not present a health risk to on-site occupants. (5/20/04 DEQ Contaminated Aquifer policy, Washington RCW 70.105D.020(17)(iii)F(iv))

Continuing Obligations. After completion of an AAI-compliant Phase I ESA, there are continuing obligations of the User required under 2002 Brownfields Amendment to maintain landowner liability protections. These include:

1. Complying with land use restrictions and not impeding the effectiveness or integrity of institutional controls.
2. Taking "reasonable steps" with respect to hazardous substances affecting a landowner's property to stop continuing releases, prevent threatened future releases, and prevent exposure to earlier releases.
3. Providing cooperation, assistance, and access to the EPA, a state, or other party conducing response actions or natural resource restoration at the property.
4. Complying with CERCLA information requests and administrative subpoenas.
5. Providing legally required notices relating to the discovery or release of hazardous substances on the property (40 CFR Par 312, Section II – Background, Item D).

Controlled Recognized Environmental Condition (CREC). A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). (See ASTM Note 2.) A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report. (See ASTM Note 3.) (ASTM E1527-13, Section 3.2.18)

ASTM Note 2: For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a controlled recognized environmental condition. The "control" is represented by the restriction that the property use remains commercial.

ASTM Note 3: A condition identified as a controlled recognized environmental condition does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Data Failure. A failure to achieve the historical research objectives in Section 8.3.1 through 8.3.2.2 of ASTM E1527-13 even after reviewing standard historical sources in 8.3.4.1 through 8.3.4.8 of ASTM E1527-13 that are reasonably ascertainable and likely to be useful. Data failure is a type of data gap. (ASTM E1527-13, Section 3.2.20)

Data Gap. A lack of, or inability to obtain required information by ASTM E1527-13 despite good faith efforts to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc). The report will identify and comment on significant data gaps that affect the ability of the EP to identify recognized environmental conditions. (ASTM E1527-13, Section 3.2.21)

***De minimis* Condition.** Condition that generally does not present a material risk of harm to public health or the environment or that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not recognized environmental conditions.

Environmental Professional. A person meeting the education, training, and experience requirements set forth in 40 CFR §312.10(b). That person may be an independent contractor or an employee of the User. (ASTM E1527-13, Section 3.2.32)

Hazardous Substance. A substance defined as a hazardous substance pursuant to CERCLA 42 USC §9601 (14), as interpreted by EPA regulations and the courts: "(A) any substance designated pursuant to Section 1321 (b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to Section 9602 of this title, (C) any hazardous waste having the characteristics identified under or pursuant to Section 3001 of the Solid Waste Disposal Act (42 USC 6921) (but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC §9601 et seq.) has been suspended by act of Congress), (D) any toxic pollutant listed under Section 1317(a) of Title 33, (E) any hazardous air pollutant listed under Section 112 of the Clean Air Act (42 §USC 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the administrator (of EPA) has taken action pursuant to Section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)." (ASTM E1527-13, Section 3.2.39)

PBS Note: The term hazardous substances, as it is used in this report, describes both hazardous substances and petroleum products. It does not include hazardous building materials.

Historical Recognized Environmental Condition (HREC). A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition. (ASTM E1527-13, Section 3.2.42)

Landowner Liability Protections (LLPs). Landowner liability protections provided under CERCLA; these protections include the bona fide prospective purchaser liability protection, contiguous property owner liability projection, and innocent landowner defense from CERCLA liability. See 42 U.S.C. §§ 9601(35)(A), 9601(40), 9607(b), 9607(q), 9607(r). (ASTM E1527-13, Section 3.2.49)

Other Issues of Concern. Issues that could potentially result in adverse environmental impacts to the subject property. They are not included as recognized environmental conditions because insufficient evidence was collected during the course of this study to come to the conclusion that the condition(s) has resulted in the "presence or likely presence" of contamination to soil and/or groundwater on the subject property.

Petroleum Products. Those substances included within the meaning of the petroleum exclusion to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and EPA; that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under Subparagraphs (A) through (F) of 42 U.S.C. § 9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (The word fraction refers to certain distillates of crude oil, including gasoline, kerosene, diesel oil, jet fuels, and fuel oil, pursuant to Standard Definitions of Petroleum Statistics.) (ASTM E1527-13, Section 3.2.65)

Practically Reviewable. Information that is practically reviewable means that the information is provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the User can review the records for a limited geographic area. Records that cannot be feasibly retrieved by reference to the location of the property or a geographic area in which the property is located are not generally practically reviewable. Most databases of public records are practically reviewable if they can be obtained from the source agency by the county, city, zip code, or other geographic area of the facilities listed in the record system. Records that are sorted, filed, organized, or maintained by the source agency only chronologically are not generally practically reviewable. Listings in publicly available records which do not have adequate address information to be located geographically are not generally considered practically reviewable. For large databases with numerous records (such as RCRA hazardous waste generators and registered underground storage tanks), the records are not practically reviewable unless they can be obtained from the source agency in the smaller geographic area of zip codes. Even when information is provided by zip code for some large databases, it is common for an unmanageable number of sites to be identified within a given zip code. In these cases, it is not necessary to review the impact of all of the sites that are likely to be listed in any given zip code because that information would not be practically reviewable. In other words, when so much data is generated that it cannot be feasibly reviewed for its impact on the property, it is not practically reviewable. (ASTM E1527-13, Section 3.2.69)

Publicly Available. Information that is publicly available means that the source of the information allows access to the information by anyone upon request. (ASTM E1527-13, Section 3.2.72)

Reasonably Ascertainable. Information that is (1) publicly available, (2) obtainable from its source within reasonable time and cost constraints, and (3) practically reviewable. (ASTM E1527-13, Section 3.2.77)

Recognized Environmental Condition (REC). The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions. (ASTM E1527-13, Section 3.2.78)

Subject Property (ASTM standard uses the term Property). The real property that is the subject of this Environmental Site Assessment. Real property includes buildings and other fixtures and improvements located on the property and affixed to the land. (ASTM E1527-13, Section 3.2.70)

User. The party seeking to use ASTM Practice E1527 to complete an Environmental Site Assessment of the property. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager. The User has specific obligations for completing a successful application of this practice as outlined in Section 6 of Practice E1527. (ASTM E1527-13, Section 3.2.98)

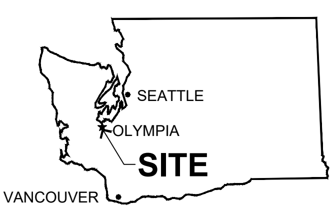
Cross Reference for ASTM E1527-13 Requirements

This table provides an easy cross reference for ensuring that the PBS Phase I ESA report complies with ASTM E1527-13. The ASTM recommended format is found in Appendix X4 of the standard.

ASTM Recommended Format	Provided in PBS Report Page/Section Number
X4.1 Summary	Executive Summary
X4.2 Introduction	Sections 1 and 2
X4.3 User Provided Information	Sections 1, 4 and 6, Appendix F
X4.4 Records Review	Sections 3 and 4, Appendices B, C, and D
X4.5 Site Reconnaissance	Section 5, Appendix E
X4.6 Interviews	Section 6
X4.7 Evaluation	Section 8
X4.8 Non-Scope Services	7
X4.9 Appendices	Appendices A, B, C, D, E, and F

Figures

SOURCE: USGS TUMWATER, WA QUADRANGLE 2020.



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PREPARED FOR: DES

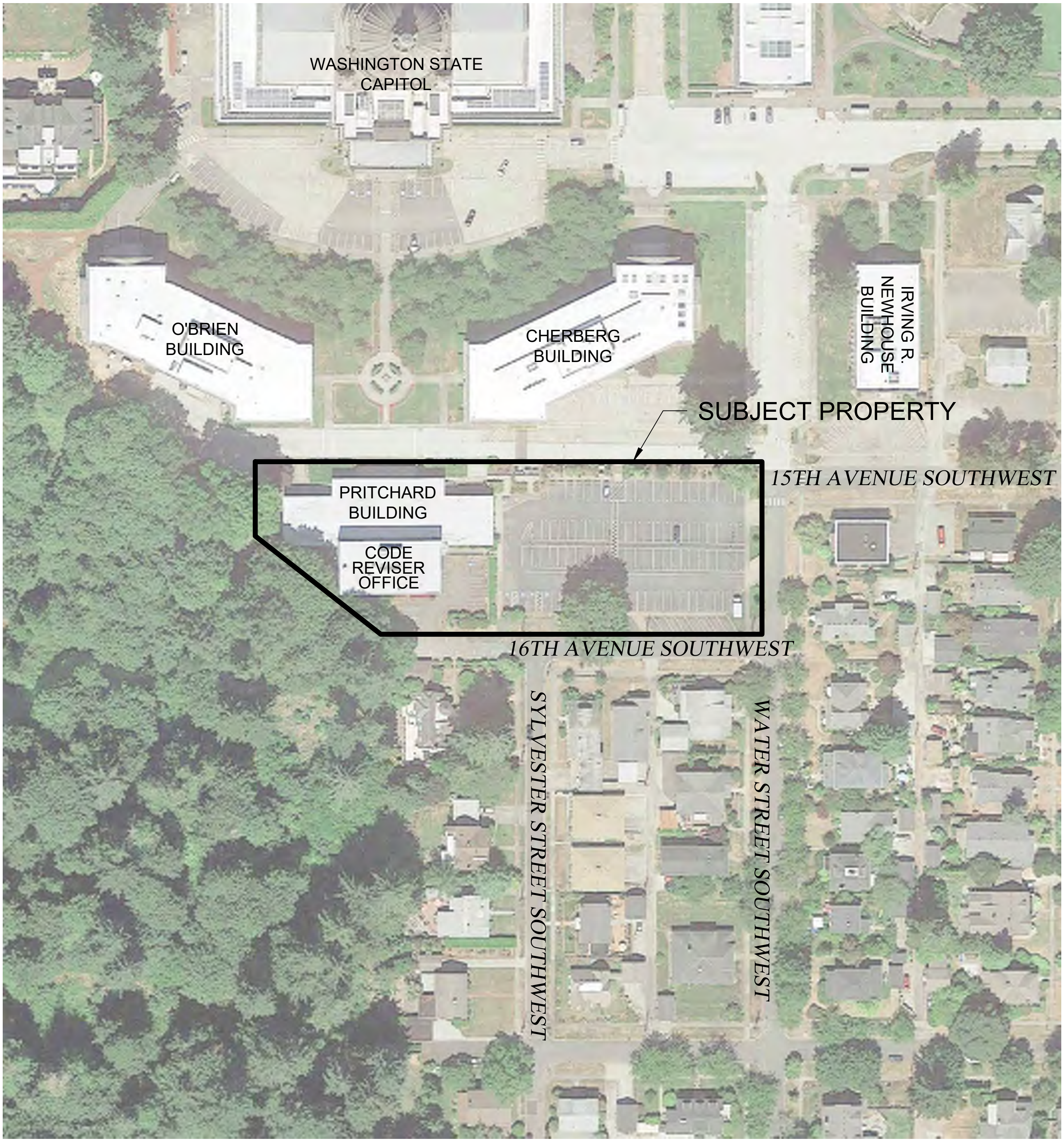
PBS

VICINITY MAP

415 15TH AVENUE SOUTHWEST
OLYMPIA, WASHINGTON

AUG 2020
40535.464

FIGURE
1



SOURCE: © 2019 GOOGLE EARTH PRO

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PREPARED FOR: DES

PBS

SITE PLAN

415 15TH AVENUE SOUTHWEST
OLYMPIA, WASHINGTON

AUG 2020
40535.464

FIGURE
2

Filename: L:\Projects\40500\40535 WADOGA\40535.400-499\40535.464 Pritchard Building\DWG\40535.464_Fig_1-2.dwg Layout Tab: SITE PLAN User: Katie Breyman CAD Plot Date/Time: 8/6/2020 5:19:07 PM

TECHNICAL MEMORANDUM

Project: **Legislative Campus Modernization (LCM) Project**

Subject: Transportation Analysis to Support Predesign

Date: November 13, 2020

Author: Marni C. Heffron, P.E., P.T.O.E.

The Legislative Campus Modernization (LCM) project would expand and upgrade office facilities for the Washington State House and Senate. This memorandum, prepared to support the project's predesign process, presents information and analysis about the project's potential transportation and parking impacts. It describes the proposed new buildings and site layouts, summarizes planning principles established by prior plans and studies, and recommends changes to the vehicle circulation and access system to meet pre-established goals. The memorandum then describes how both the new building and recommended transportation changes could affect traffic and parking in the site vicinity. In addition, this analysis evaluates City-proposed improvements to Capitol Way S, which in the short-term would add protected bicycle lanes to the corridor, and in the long-term could convert the Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection into a roundabout.

According to the *State of Washington Predesign Manual,*[1] "The predesign process is a decision-making tool for large, stand-alone (between $1 million and $5 million) and major (more than $5 million) capital budget expenditures. The intent of a predesign study is to investigate facility alternatives for public service delivery or administration. It should assess which alternative best solves a specific problem and at what cost. This will assist decision makers in determining whether the project should proceed to design and construction. Predesign is the beginning of a project, not a result of a design concept already selected." This transportation analysis is set up to assist decision makers with determining the project's transportation and parking features to be carried into future phases of design. It is anticipated that subsequent refinements or additional transportation analysis may be needed to support project permitting.

1. Summary of Findings

The proposed LCM project would not adversely affect traffic operations or parking in the site vicinity. In addition to new buildings for the House and Senate offices, the project proposes two changes to the vicinity roadway network that would affect travel patterns: 1) vacation of Columbia Street SW between 15th Avenue SW and Sid Snyder Avenue SW, and 2) a diagonal diverter at the Water Street SW/15th Avenue SW intersection. Together these changes would require traffic to enter and exit the LCM sites from Sid Snyder Avenue SW. Those changes would eliminate cut-through traffic that now uses streets in the South Campus Historic Neighborhood to reach the Capitol Campus, and divert that traffic onto Capitol Way S.

The City of Olympia plans to add protected bicycle lanes to Capitol Way S, which would change the configuration of intersections along the corridor. The area's primary intersection, at Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW would degrade slightly due to the changes, but would continue to operate at an acceptable level of service with the LCM project. The LCM would improve operation at the Capitol

[1] Office of Financial Management Budget Division, July 2014.

Way S/15th Avenue SW intersection with the bike lanes in place. While neighborhood traffic would not be able to exit the neighborhood using Sid Snyder Avenue SW to reach the signal, the new center turn-lane on Capitol Way S would make it easier to egress the neighborhood at 17th Avenue SW. No further improvements to the transportation system would be needed to accommodate the LCM project.

At the request of the City of Olympia, this study also tested traffic operations with a future roundabout at the intersection of Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW. Although the City has no plans at this time or funding for such an improvement, it wanted to understand how the LCM project could affect intersection operations and the physical constraints to creating a roundabout in the future. As noted above, the City's short-term improvement that would reduce the number of lanes on Capitol Way S to accommodate bike lanes would still provide acceptable levels of operation at this intersection, so a roundabout would not be needed to support the LCM project. The analysis determined that a roundabout configuration with two lanes on Capitol Way S and one lane on Sid Snyder Avenue SW would provide acceptable operations. The LCM project, as currently proposed, would not construct structures on the southwest corner of that intersection, and would not constrain the ability for the City to construct this roundabout in the future.

The LCM project would reduce the number of parking stalls in the Southwest Campus area from 350 to 293 stalls. In the foreseeable future, the LCM project is expected to accommodate the same number of legislators and staff who already work in this area of the campus, and is not expected to increase visitor trips. The only potential increase would be employees who work in Production and Design, a new space that could be located in the Newhouse replacement building. That unit is expected to have fewer than 10 employees.

Overall, the LCM project could result in a net deficit of about 65 parking stalls (a decrease of 57 stalls plus a slight increase in demand associated with Production and Design), which would need to be found elsewhere on the Capitol Campus. The COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are currently working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in everyday employee parking demand would open up parking capacity to use during the peak times when the legislature is in session. Therefore, it is recommended that no additional parking beyond the proposed 293 stalls be constructed. Parking management strategies would need to be updated with the new LCM project, including determining how parking will be allocated among various users. It is recommended that visitor parking remain proximate to the legislative buildings to prevent overspill parking in the adjacent neighborhood.

2. Proposed LCM Project

2.1. Planned LCM Building Programs

The LCM project would build new legislative office capacity on two sites that are referred to as the Newhouse site and the Prichard site. In addition, the Visitor Center site would be reconfigured to increase surface parking and improve connections to the existing pedestrian bridge. The sites are shown on Figure 1; the predesign site plan is shown on Figure 2.

The goal of the LCM project is to increase office space for the House of Representatives and Senate. On the Newhouse site, the existing Newhouse Building and Press Houses would be replaced with a new office building for the Senate, with potential to add functions such as printing and a loading dock. On the Prichard site, the existing Pritchard Building would be replaced with a new building for House and legislative agencies offices. Table 1 summarizes the net change in building program on each site.

Table 1. Net Change in LCM Building Program

Location / Element	Existing (GSF)	Proposed (GSF)	Net Change (GSF)
Newhouse Site			
Newhouse Building to be demolished	25,100		
Press House 1 to be demolished	3,714	*0*	
Press House 2 to be demolished	5,576	0	
Visitor Center to be demolished	872	0	
Replacement Building (Senate)	0	64,768	
Total Newhouse Site	*35,262*	*64,768*	*29,506*
Prichard Site			
Prichard Building to be demolished	54,710		
Replacement Building (House and Leg Agencies)	0	72,342	
Total Prichard Site	*54,710*	*72,342*	*17,632*
Total Both Sites	89,972	137,110	47,138

Source: Mithun, October 12, 2020.
GSF = gross square feet

Figure 1. LCM Project Sites

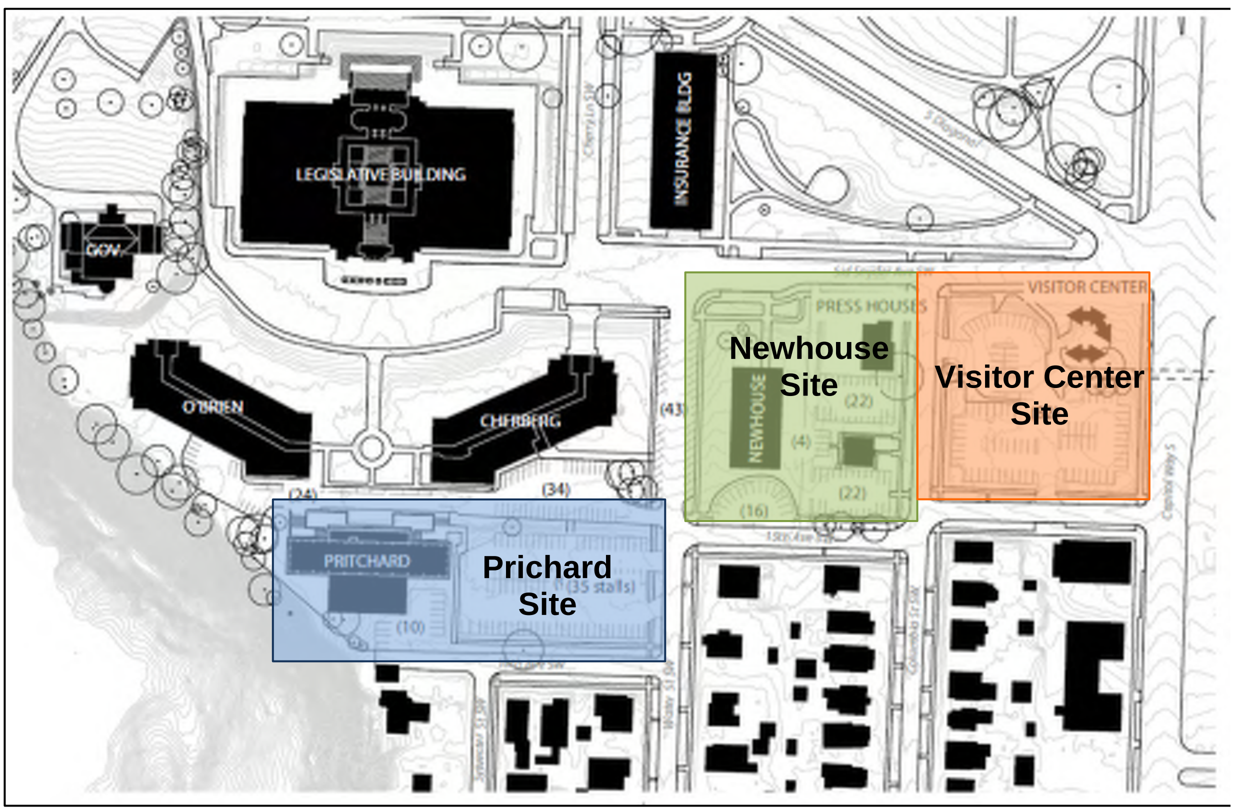
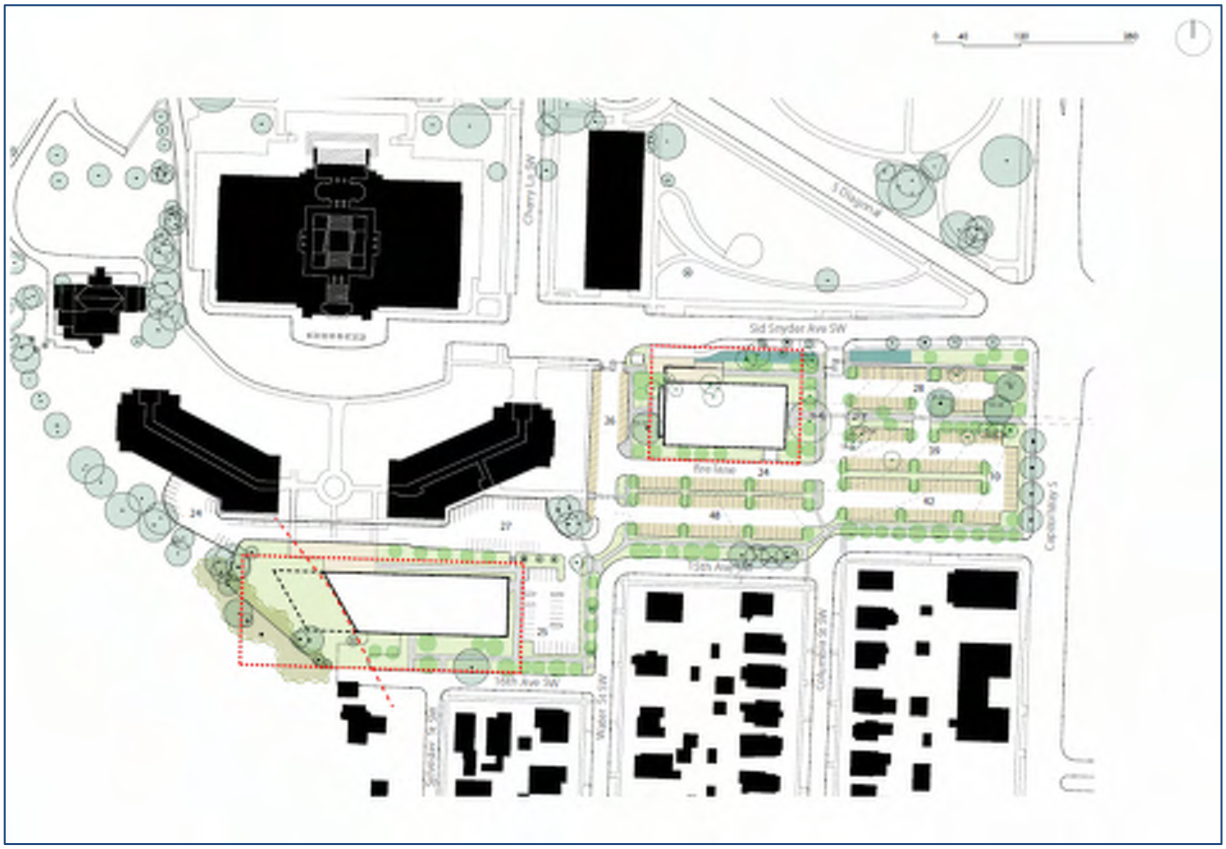


Figure 2. LCM Pre-Design Plan



Source: Mithun, November 2020.

2.2. Proposed Parking

ESSB 6248 established the requirements for the LCM project. It directs that, "*The amount of parking on the capitol campus remains the same or increases as a result of the legislative campus modernization construction projects.*" The southwest corner of the Capitol Campus (bounded by Sid Snyder Avenue SW, Capitol Way S and 15th Avenue SW) where the LCM buildings are located currently has 350 parking stalls. With the expanded building footprints and other requirements, such as critical area and security setbacks as well as enhanced landscape features, it is not possible to retain 350 parking stalls in this area without constructing structured parking, which was not foreseen in the project budget. The proposed plan includes a total of 280 parking stalls in the southwest campus area, which reflects a net loss of 70 spaces compared to current conditions. Table 2 summarizes the location of the existing and proposed parking supply. Detailed analysis of how the change in parking stalls could affect campus-wide parking is presented in Section 6.

It is noted that although the LCM project would increase the amount of usable building spaces for the House and Senate, the project is not expected to increase staffing. Therefore, the number of vehicles that need to park in these lots is not expected to change. As described later in this report, traffic analysis performed for the new buildings does assume that growth in employment occupancy could occur in the future, in the case that the building spaces are ever converted to another use. Under that condition, new employee trips would either have to convert to another mode of travel (which is the goal of the overall Campus Transportation Plan) or additional parking would need to be found elsewhere on the campus.

Table 2. Existing and Proposed Parking Supply

Location	Existing Stalls	Proposed Stalls
Visitor Center Lot	82	119
Press House Lots	48	72
Newhouse Circle	16	0
Water Street SW	43	26
South of Cherberg Building	34	27
South of O'Brien Building	24	24
Pritchard Lot	93	25
South of Prichard Building	10	0
Total	350	293

Source: Existing supply provided by Washington State Department of Enterprise Services, July 2020. Proposed supply provided by Mithun, October 22, 2020.

2.3. Proposed LCM Access, Circulation and Pedestrian Facilities

Several changes to the local street network are proposed to focus access to Sid Snyder Avenue SW as recommended in the _State Capitol Development Study for Opportunity Sites 1, 5, 6 & 12._[2] Collectively, the changes are intended to prevent traffic from cutting through the South Campus Neighborhood Historic District to reach the Capitol Campus, and improve security by limiting the number of vehicular access points to the core legislative buildings. These proposed street changes and improvements include the following elements:

- **Traffic diverter at Water Street SW/15th Avenue SW intersection** – The project proposes to construct a raised diagonal diverter across this intersection from the southwest corner to the northeast corner. Campus traffic destined to park behind the O'Brien or Cherberg Buildings or on the Prichard Lot would need to access those areas from Sid Snyder Avenue SW and Water Street SW. Local traffic from the South Campus Neighborhood could pass through the intersection and access Capitol Way via 15th Avenue SW. Pedestrians would be able to cross in all directions through the intersection with improved walkways and crossings. Accommodations for emergency vehicles could be made to cut across the diverter.

- **Vacate and reconfigure Columbia Street** – Columbia Street SW is proposed to be vacated between 15th Avenue SW and Sid Snyder Avenue SW to expand parking east of the new Newhouse Building. It would allow for all the parking adjacent to the buildings to be secured with entry and exit controlled at two points on Sid Snyder Avenue SW. This change would also reduce cut-through traffic in the South Campus Neighborhood.

- **Controlled Access at Water Street SW** – The traffic diverter described above would force Capitol Campus vehicular traffic to access the area via Water Street SW. A security gate or booth could then be located on Water Street SW just south of Sid Snyder Avenue SW to control access to the legislative buildings.

None of the changes above would affect pedestrian access or routing. The project would substantially enhance pedestrian facilities by constructing the following elements:

[2] State of Washington Department of Enterprise Services and Schact Aslani Architects / Mithun; March 2017.

- **Continuous sidewalk on north side of 15th Avenue SW –** The vacation of Columbia Street SW and the diagonal traffic diverter would allow construction of an uninterrupted sidewalk along the north side of 15th Avenue SW between Capitol Way S and the Prichard Building site.

- **Improved connection to pedestrian bridge –** The reconfigured parking lot on the Visitor Center site would improve the surface connection between the west end of the pedestrian bridge that crosses Capitol Way and the new Newhouse Building. New sidewalk connections north to Sid Snyder Avenue SW or south to 15th Avenue SW would be constructed.

- **Sidewalk improvements along Prichard Building frontage –** There is currently no sidewalk along 15th Avenue SW west of Water Street SW. Pedestrian walkways are painted on the street's pavement. The reconstructed Prichard Building would provide a sidewalk that connects through the diagonal diverter to the improved sidewalks west of Water Street SW.

- **Other pedestrian improvements –** Additional improvements could occur along Water Street SW where the elimination of driveways to the Prichard parking lot would allow a continuous sidewalk along the west side of that street. Improved walkways are also proposed along the north side of the new Newhouse Building.

3. Change in Traffic Volumes With LCM Project

3.1. Trip Generation

Although the LCM project is not expected to increase employment levels of the House of Senate, the City of Olympia requested that the traffic analysis be based on the increased building size in the event that the spaces are ever used to accommodate future growth. As previously summarized in Table 1, the LCM project would add 47,138 sf of space to the Capitol Campus.

Trip Generation Methodology

Trip estimates for the project were determined using procedures set forth in the *Trip Generation Handbook.*[3] The Institute of Transportation Engineers (ITE) recognizes that development projects located in urban environments generate fewer trips than those in suburban settings, and recommends processes to account for non-vehicle trips including those by transit, walking, and biking.

Trip generation for the proposed LCM project was derived using data in the Institute of Transportation Engineers *Trip Generation Manual*[4] and information about employee commute modes of travel on the Capitol Campus. As noted above, the number of state legislators and staff who support them is not expected to change in the near future. If, however, the proposed buildings were to ever support other functions, the increase in trips would more likely reflect the trip patterns of regular support staff rather than legislators. Therefore, the trip rates and adjustment for mode of travel are reasonable.

This process used to estimate vehicle trips for the LCM project is as follows:

1. Estimate the number of person trips for each land use;
2. Estimate the external person trips by mode of travel using the local mode of travel factors for the site; and

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3 Institute of Transportation Engineers, *Trip Generation Handbook,* 3rd Edition, September 2017.
4 10th Edition, September 2017.

3. Convert the person trips by vehicle into adjusted vehicle trips using the local average vehicle occupancy (AVO) rates for the site.

Each of these steps is described in the following sections.

Person Trips

Person trips were derived using rates and equations in ITE's *Trip Generation Manual*[5] and *Trip Generation Handbook.*[6] Trip generation rates for a "Government Office Building" were applied for this project, and are summarized in Table 3. This land use is defined as "A government office building is an individual building containing either the entire function or simply one agency of a city, county, state, federal or other governmental unit." There were eight studies of this type of use. The function could also be defined as a "Government Office Complex," since these buildings are part of a broader campus; however, that defined use had only one study and was not deemed to be similar to the potential use.

The ITE rates reflect vehicle trips. Those were converted to person trips using assumptions about average vehicle occupancy (AVO) and vehicle trip percentages. However, there are no available data for these factors for a Government Office Building land use. Therefore, data for a General Office were used, which reflect a condition where most of the trips occur by single-occupant vehicle. Table 3 summarizes the baseline rates used to determine the number of person trips. Table 4 summarizes the person trips for the existing and proposed buildings, and the net change that would result from the LCM project.

Table 3. Baseline Trip Generation Rates, AVO and Mode Share Assumptions

		Baseline Average Vehicle Occupancy (AVO) Rates [b]		Baseline Vehicle Trip % [b]	
Time Period	ITE Trip Generation Rate [a]	Inbound	Outbound	Inbound	Outbound
Daily	T = 22.59X	1.09	1.07	98%	99%
AM Peak Hour	T = 3.34X	1.06	1.06	99%	100%
PM Peak Hour	T = 1.71X	1.11	1.07	100%	99%

a. *Source: Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017. "T" = trips, "X" = 1000 sf of gross floor area. The listed rates are for a "Government Office Building" (Land Use Code 730).*

b. *Based on data in ITE Trip Generation Handbook, 3rd Edition; Tables B.1.and B.2. Baseline vehicle trip % inherent less than 100% reflect trips made by walk and transit modes. The rates used are for a General Office Building (Land Use Code 710).*

5 Institute of Transportation Engineers, *Trip Generation Manual*, 10th Edition, 2017.

6 Institute of Transportation Engineers, *Trip Generation Handbook*, 3rd Edition, September 2017.

Table 4. Net Change in **Person Trips** for LCM

Person Trip Summary	Size	Daily Trips	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Existing Buildings								
Newhouse Site	35,262	870	95	31	126	17	49	66
Prichard Site	54,710	1,360	147	48	195	26	76	102
Total Existing	89,972	2,230	242	79	321	43	125	168
Proposed Buildings								
Newhouse Site	64,768	1,600	174	57	231	31	90	121
Prichard Site	72,342	1,790	194	64	258	34	100	134
Total Proposed	137,110	3,390	368	121	489	65	190	255
Net Change								
Newhouse Site	29,506	730	79	26	105	14	41	55
Prichard Site	17,632	430	47	16	63	8	24	32
Net Change	47,138	1,160	126	42	168	22	65	87

Source: Heffron Transportation, Inc. October 2020.

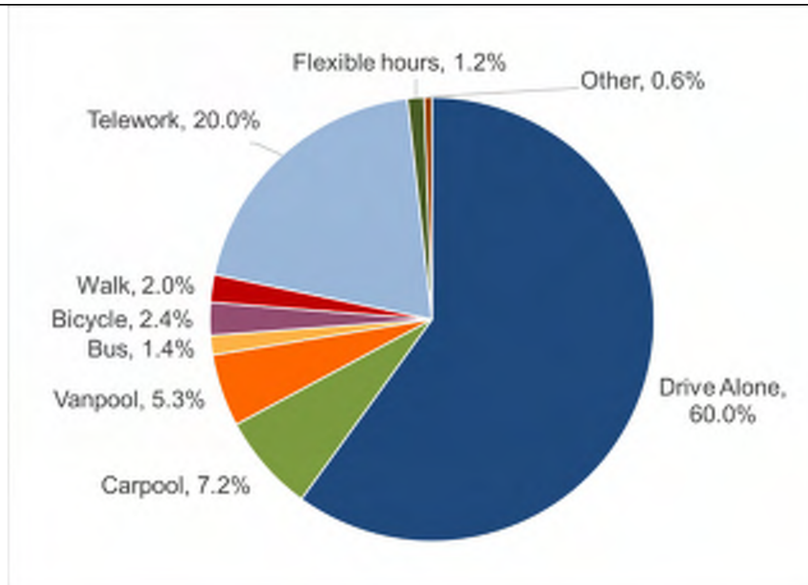
Mode of Travel

Given that no additional parking would be provided for the proposed LCM projects, it is reasonable to assume that potential growth in building occupancy would require that more of the occupants use alternatives to driving. Mode-of-travel rates were derived from the State's *Commute Trip Reduction* (CTR) program for which the long-term goal is that 40% of all trips occur by alternative commute methods, including work-from-home. Figure 3 summarizes the assumptions by mode of travel, which are based on assumptions used for a recent project on the Capitol Campus.[7] The analysis assumes that 60% of the building's employees would drive alone in the future (single-occupant vehicle or SOV), another 7.2% are expected to carpool, and 5.3% are expected to vanpool. It is noted that the future mode of travel target is not much different than the 64.9% SOV rate achieved by the Washington State Legislative Service Center staff in 2019.[8] Table 5 summarizes the net change in person trips by mode of travel.

7 Mode of travel assumptions applied for the Office of Insurance Commissioner (OIC) and Department of Children, Youth and Families (DCYF) project, September 2020. Assumptions discussed at June 10, 2020 meeting with stakeholder group. It was agreed that the State CTR goals for mode of travel apply to all agencies and are reasonable based on current travel behavior and future mode share targets for the Capitol Campus.

8 *CTR Employer Survey Report* for WA State Legislative Service Center, June 3, 2019.

Figure 3. Employee Mode of Travel Assumptions – Year 2030 Goal



Source: Mode of travel assumptions applied for the Office of Insurance Commissioner (OIC) and Department of Children, Youth and Families (DCYF) project, September 2020.

Table 5. Net Change in Person Trips by Mode of Travel

Mode of Travel	% Trips by Mode	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Person Trips by Vehicle	72.5%	840	91	31	122	16	47	63
Transit Trips	1.4%	20	2	0	2	0	1	1
Walk/Bike Trips	4.4%	50	6	1	7	1	3	4
Other (Telework, Flex)	21.7%	250	27	10	37	5	14	19
Net Change in Person Trips	100.0%	1,160	126	42	168	22	65	87

Source: Heffron Transportation, Inc. October 2020.

Vehicle Trips

The person trips by vehicle were converted to vehicle trips by applying the local AVO rate. The Capitol Campus AVO rate is 1.4 people per vehicle based on the mode of travel assumptions for drive alone, carpool and vanpool trips. Table 6 summarizes the net change in vehicle trips for each of the LCM sites. If the buildings were used to accommodate higher employment densities in the future, it could result in a net increase of 600 vehicle trips per day, including 87 vehicle trips in the AM peak hour and 45 vehicle trips in the PM peak hour.

Table 6. Net Change in Vehicle Trips for LCM Sites

	Building Size (sf)	Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Vehicle Trips by Condition								
Existing Vehicle Trips	89,972	1,160	125	41	166	22	65	87
Proposed Vehicle Trips	137,110	1,760	190	63	253	34	98	132
Net Change in Vehicle Trips	47,138	600	65	22	87	12	33	45
Net Change by Location								
Newhouse Site	29,506	380	41	13	54	7	21	28
Prichard Site	17,632	220	24	9	33	5	12	17
Total Change Both Sites	47,138	600	65	22	87	12	33	45

Source: Heffron Transportation, Inc. October 2020. Assumes AVO rate of 1.4 persons per vehicle.

4. Change in Traffic Patterns Due to LCM Project and Street Closures

The project proposes two changes to the vicinity roadway network that would affect travel patterns: 1) vacation of Columbia Street SW between 15th Avenue SW and Sid Snyder Avenue SW, and 2) a diagonal diverter at the Water Street SW/15th Avenue SW intersection. Together these changes would require traffic to enter and exit the LCM sites from Sid Snyder Avenue SW. This section describes how those changes could affect travel patterns and traffic operations along primary diversion routes.

This traffic analysis was performed during the COVID-19 pandemic, and it was not feasible to collect new, reliable traffic count data since most campus employees were observing the Governor's stay-at-home order. Therefore, historic traffic count data from the City of Olympia and travel demand forecast model output from the Thurston Regional Planning Council (TRPC) were used. The TRPC used its Sub-area model for the Capitol Campus area[9] to assess travel patterns under various conditions. The model output included "select zone" analysis, which showed the travel patterns for trips to the Capitol Campus, as well as "select link" analysis that showed travel patterns for trips with and without the segment of Columbia Street SW that is proposed to be vacated.

4.1. Capitol Campus Vehicle Trip Distribution Patterns

The TRPC select zone analysis for the Capitol Campus showed the overall travel patterns for trips that arrive and depart the West Campus during the PM peak hour. Inbound and outbound trips had similar patterns. The general distribution pattern derived from the model is summarized in Table 7.

9 Thurston Regional Planning Council, Dynameq model output, October 20, 2020. The Dynameq model platform simulates route choice by individual drivers based on roadway design and delay estimates.

Table 7. Vehicle Trip Pattern for Capitol Campus Trips

Travel Route / Direction	% Trips
14th Avenue SE, East of Campus (Tunnel)	40%
Capitol Way S, South of Campus	25%
Streets North of Campus (into Downtown)	30%
11th Avenue SE, East of Campus	5%
Total	100%

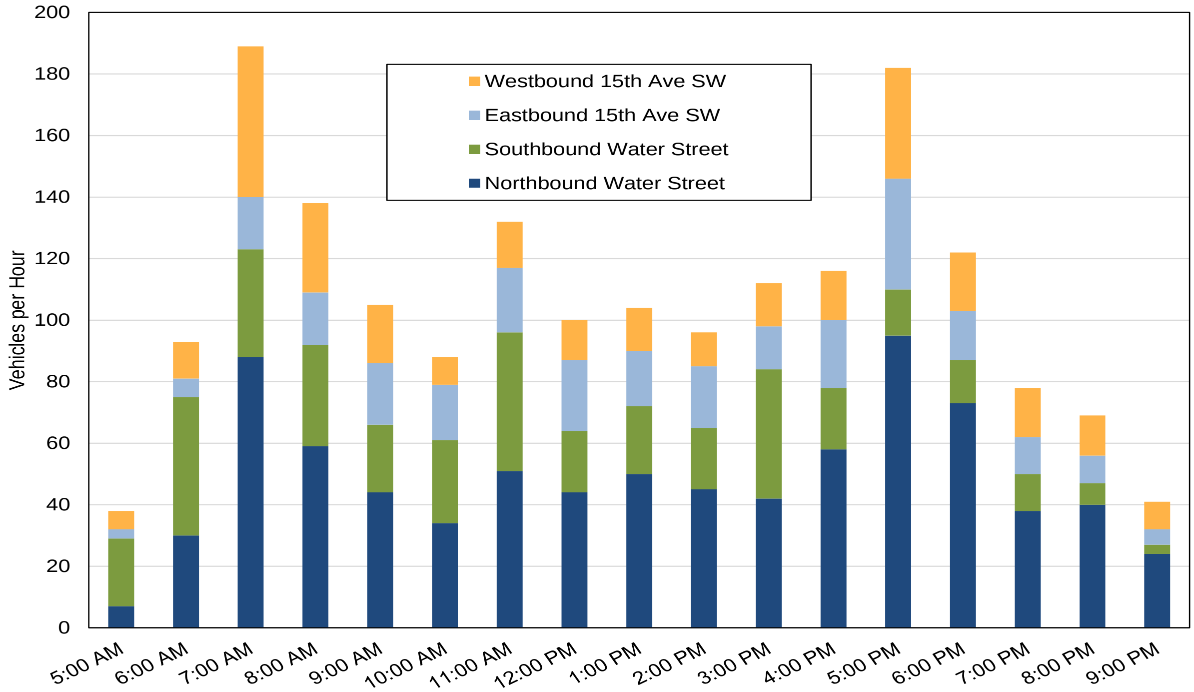
Source: Derived by Heffron Transportation, Inc. based on TPRC select zone analysis for TAZ 359.

The TPRC data showed that most of the vehicle trips arriving to the campus from the south (nearly 80% of the trips from that direction) cut through the South Campus Neighborhood on Columbia Street SW to avoid the left turn from Capitol Way S to Sid Snyder Avenue SW. The model showed that traffic exiting the campus is less likely to cut through the neighborhood since it is not as difficult to make a right turn onto Capitol Way S. However, the location of parking at the existing Prichard Building and Newhouse/ Press Buildings make this cut through option more attractive for vehicles generated at these lots.

4.2. Local Traffic Patterns and Neighborhood Cut-Through Traffic

The City of Olympia had a multi-day count for each leg of the Water Street SW/15th Avenue SW intersection; it was performed the first week of February 2014 when the legislature was in session. This count showed hourly volumes for Monday through Thursday of that week. While specific turning movements were not collected, both directions of travel, entering and exiting, were recorded for each leg of the intersection. Figure 4 shows the cumulative traffic exiting the intersection for each hour of the day. These data show that the AM peak hour occurred from 7:00 to 8:00 A.M. and the PM peak hour occurred from 5:00 to 6:00 P.M. During the AM peak hour, nearly 90 vehicles used northbound Water Street SW, and about 50% of that traffic is estimated to be cut-through traffic destined to the campus or downtown. A similar volume of traffic uses that same route in the PM peak hour, but that is more likely to be associated with vehicles exiting the large parking areas at the Prichard and Newhouse buildings destined to I-5 (via 14th Avenue SE) or toward downtown. The cut-through traffic on this street in the afternoon is estimated to be 20 trips northbound and 30 trips southbound. The data show that about 35 vehicles exit the area in the PM peak hour on 15th Avenue SW east of Water Street SW.

Figure 4. Traffic Exiting the Water Street SW/15th Avenue SW Intersection



Source: City of Olympia, Traffic count performed from Monday, February 3, 2014 through Thursday February 6, 2014. Outbound traffic was compiled since there were machine failures for inbound traffic.

4.3. Traffic Diversion Effect of Proposed Street Changes

This section describes how the two proposed street changes would affect non-LCM traffic in the neighborhood. Rerouting of LCM traffic is described in Section 4.4.

Water Street Diagonal Diverter

The proposed diagonal diverter through the Water Street SW/15th Avenue SW intersection would eliminate the ability to cut through the neighborhood to reach any of the West Campus parking areas. Local neighborhood traffic could continue to use Water Street SW south of the intersection, as well as 15th Avenue SW east of the intersection, to reach Capitol Way S. All campus-related traffic would have to enter the area from Capitol Way S using Sid Snyder Avenue SW or Cherry Lane SW. It is estimated that about 60 cut-through trips during the AM peak hour (45 northbound and 15 southbound) and 50 cut-through trips in the PM peak hour (20 northbound and 30 southbound) would be eliminated by this change.

Columbia Street Vacation

The TRPC modeled existing local traffic patterns with and without the segment of Columbia Street SW that is planned to be vacated. The existing model shows that about 75 vehicles use the segment of Columbia Street SW between 15th Avenue SW and Sid Snyder Avenue SW during the PM peak hour (70 northbound and 5 southbound). Of the northbound trips, it is estimated that 40 cut through the South Capitol neighborhood to either reach parking that is directly accessed from Columbia Street SW (at the Visitor Center or Press Houses) or to reach parts of the campus north of Sid Snyder Avenue SW. The remaining trips turn from Capitol Way S to 15th Avenue SW to access those lots. If Columbia Street SW north of 15th Avenue SW is vacated, the TRPC model indicates that traffic would primarily divert to Capitol Way S and Sid Snyder Avenue SW; a small amount of traffic that is destined to the north side of campus or downtown would remain on Capitol Way S and use other routes to the north such as 11th Avenue SW.

4.4. Cumulative Effect of LCM Buildings and Street Changes

The cumulative traffic effect of the new LCM Buildings, change in parking locations, and the street changes was determined for PM peak hour conditions. This was derived using the following steps:

1. **Assign existing LCM trips without street changes.** The existing PM peak hour trips generated by the LCM project (87 trips) were assigned to the street network based on the parking locations and TRPC model trip distribution pattern. This assignment assumed no changes in the street system.

2. **Assign future LCM trips with street changes.** The future PM peak hour trips generated by the LCM buildings (132 trips, which assumes growth in employee density) were assigned based on the future parking locations and the TRPC model trip distribution patterns. This assignment assumed the diagonal diverter at the Water Street SW/15th Avenue SW intersection and the vacation of Columbia Street SW. Although the number of parking stalls in the West Campus may be lower than existing, the worst-case condition for traffic assumes that all trips would access and egress the campus via Sid Snyder Avenue SW. This requires that the reassigned neighborhood cut-through traffic make a left turn from Capitol Way S to Sid Snyder Avenue SW.

3. **Determine change in background traffic diverted by the street changes.** The cut-through traffic that now uses either Water Street SW or Columbia Street SW was assumed to divert to Capitol Way S and Sid Snyder Avenue SW to access the campus. A small amount of the cut-through traffic was assumed to stay on Capitol Way S to reach areas north of campus.

Figure 5 shows the net change in PM peak hour trips associated with the LCM project and diverted neighborhood cut-through traffic. This shows that the largest increases in traffic are expected to occur on the segment of Capitol Way S between 14th Avenue SE and 21st Avenue SW with an increase of 60 vehicles per hour in the southbound direction and 68 vehicles per hour in the northbound direction. Beyond that segment, the project is expected to increase directional traffic on various streets by fewer than 15 vehicles per hour. The street changes would substantially decrease traffic that now uses Water Street SW and Columbia Street SW south of 15th Avenue SW. While the absolute volume decreases are relatively small, they represent 60% to 75% of each street's traffic.

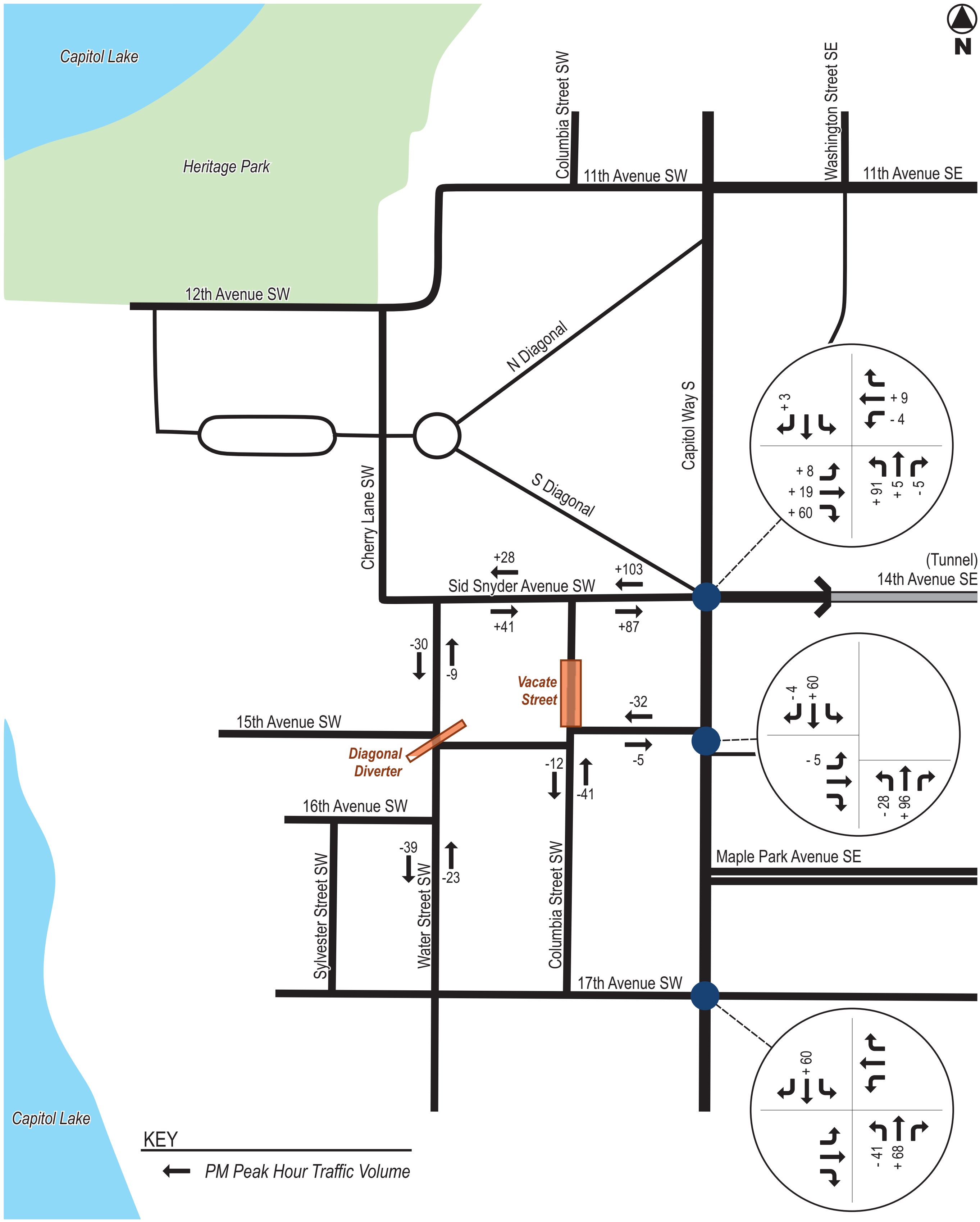


Figure 5

Net Change in Trips Due to LCM Project and Street Revisions PM Peak Hour

Capitol Campus LCM

heffron transportation inc

5. Traffic Operations on Capitol Way S

As described in the previous section, the proposed LCM project would increase traffic on Capitol Way S, south of 14th Avenue SE, due to the combined effect of increased building size and street changes that would divert existing neighborhood cut-through traffic back onto this arterial. Detailed traffic operations analysis was performed for this predesign effort to address the following:

- How would the increase in traffic affect signal operations at the Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection?
  - How would that signal operate with lane changes associated with the City's near-term plan to install buffered bike lanes on the Capitol Way S corridor?
  - How would that intersection operate if it were changed to a roundabout per the City of Olympia's long-range vision?
- How would the unsignalized intersections on Capitol Way S that serve the neighborhood (e.g., 15th Avenue SW and 17th Avenue SW) operate in the future?

The following sections describe the existing and planned near-term traffic operations along Capitol Way S that are independent of the LCM project (background conditions). It then describes how the project would affect those conditions with the increased traffic and changes to neighborhood traffic patterns. Finally, it assesses the potential long-term operations of a City goal to install a roundabout at the Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection.

5.1. Existing Traffic Operations (Year 2018)

Traffic operations are evaluated based on level-of-service (LOS), which is a qualitative measure used to characterize intersection operating conditions. Six letter designations, "A" through "F," are used to define level of service. LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays.

Levels of service for the study area intersections are determined using methodologies established in the *Highway Capacity Manual* (Transportation Research Board, 2016). Level-of-service for signalized intersections is defined in terms of average delay for all vehicles that travel through the intersection. Delay at signalized intersections is determined based on a combination of variables including: lane configuration, traffic volumes by turning movement, signal phasing and cycle length and other variables. For one- or two-way stop-controlled intersections, level-of-service is based on the average delay per vehicle for each movement; delay is related to the availability of gaps in the main street's traffic flow, and the ability of a driver to enter or pass through those gaps. The level-of-service for all-way stop or roundabout-controlled intersections is based upon the average delay for all vehicles that travel through the intersection.

The City of Olympia has adopted the following operational standards that are applicable to streets within the transportation study area (City of Olympia, 2019a).

- LOS E or better is acceptable on arterials and major collectors in the City Center and along urban corridors
- LOS D is acceptable in the rest of the city and Urban Growth Area

Since it is an arterial, the LOS E standard is applied to intersections along the Capitol Way S corridor.

Existing traffic operations on Capitol Way S were evaluated using Synchro traffic operations models provided by the City of Olympia.[10] Traffic volumes in the model reflected counts performed between 2016 and 2019. For unsignalized intersections between 14th Avenue SE and 21st Avenue SW, traffic volumes were estimated using historic counts provided by the City as well as model information from the TRPC. These existing conditions reflect the existing four-lane configuration on Capitol Way S. The existing traffic volumes are shown on Figure 6.

Existing traffic operations are summarized in Table 8. The signalized intersection at Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW currently operates at LOS C. The two unsignalized intersections at 15th Avenue SW and 17th Avenue SW have side-street movements that currently operate at LOS B or better.

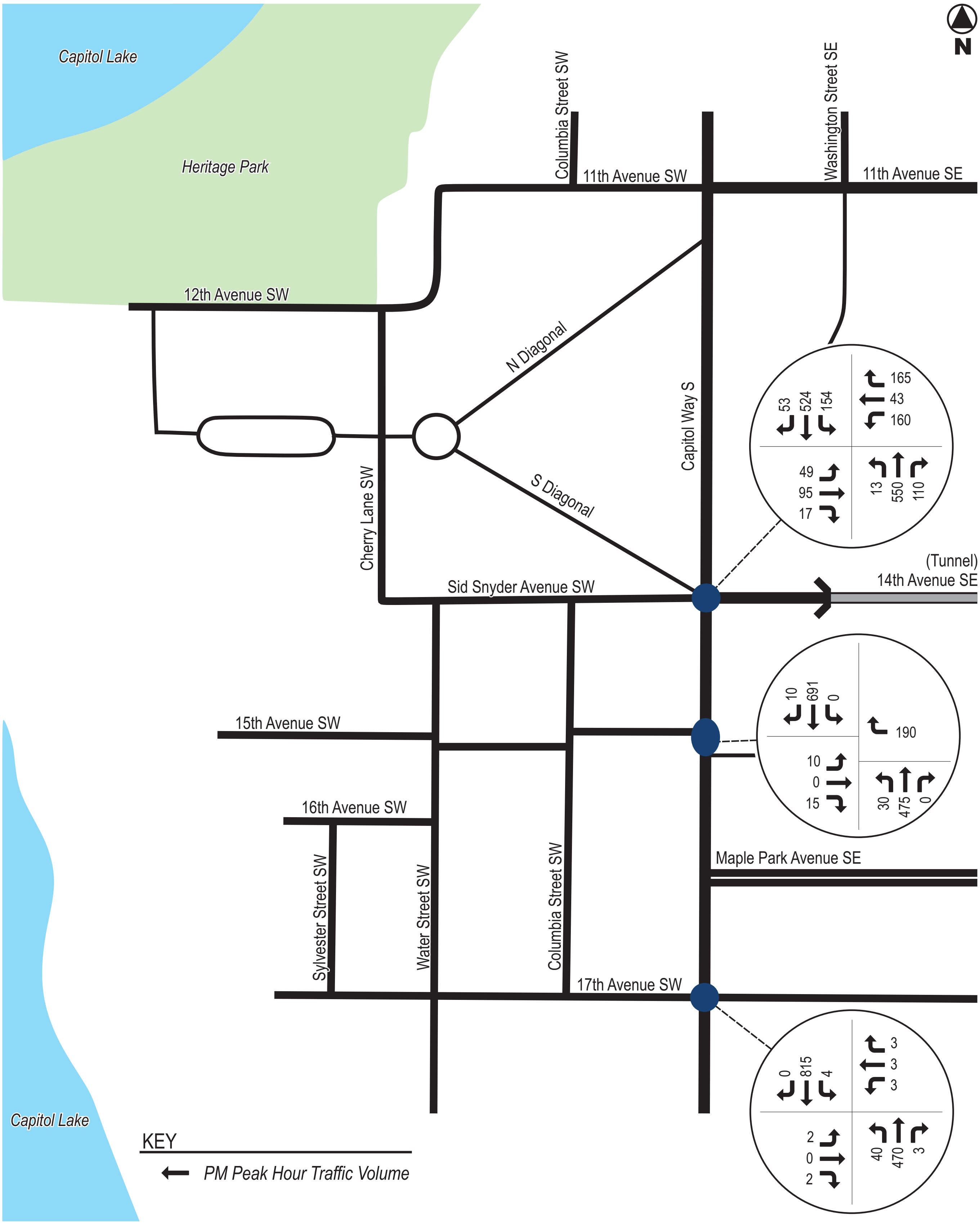
Table 8. Level of Service with Existing (2018) Traffic Volumes

	Existing Lane Configuration		
Intersection / Movement	LOS [1]	Delay [2]	Queue [3]
Capitol Way S / 14th Ave SE (Signalized) – *Overall*	*C*	*25.9*	
Northbound Capitol Way S	C	22.9	182’
Southbound Capitol Way S	B	15.6	192’
Westbound 14th Ave SE	D	46.8	197’
Eastbound Sid Snyder Ave SW	D	38.1	78’
Capitol Way S / 15th Ave SW (Stop Sign) [4] – *Overall*	*A*	*0.4*	
Northbound Left Turn	A	8.2	3’
Eastbound 15th Ave SW	B	11.1	3’
Capitol Way S / 17th Ave SW (Stop Sign) [4] – *Overall*	*A*	*0.4*	
Northbound Left Turn	A	8.35	3’
Southbound Left Turn	A	7.7	0’
Eastbound 17th Ave SW	B	11.1	0’
Westbound 17th Ave SW	B	11.9	3’

Source: Levels of service analysis performed by Heffron Transportation, Inc. using Synchro 10.3 model provided by the City of Olympia. Results reflect Highway Capacity Manual (HCM) 6th Edition.

1. *LOS = level of service*
2. *Delay = average seconds of delay per vehicle*
3. *95th percentile queue length for the lane with the approach lane with the longest queue. Queues are reported in feet. For stop control analysis, queue lengths are reported in number of vehicles. Queue lengths are converted into feet by applying the Synchro Average Vehicle Length of 25 feet.*
4. *Side Street vehicle movements controlled by a stop sign*

[10] City of Olympia, Synchro model titled, "2018 - Existing_PM_TP2_10_ OPTIMIZE_15", provided September 2020.



Capitol Campus LCM

Figure 6
Existing Conditions Traffic Volumes (2018)
PM Peak Hour

heffron transportation inc

5.2. Future Traffic Operations (Year 2028)

To assess how operations would change in the future with City-planned changes as well as the LCM project, traffic operations for the year 2028 were evaluated, which reflects a 10-year horizon beyond the existing conditions analyzed in the previous section. Future volumes were forecast using a 1% annual growth rate recommended by the City of Olympia.[11] The City noted that traffic volumes on Capitol Way S decreased between 2008 and 2015, so the 1% per year growth reflects a conservative growth condition.

Planned Near-Term Improvements on Capitol Way S

The City of Olympia plans to reconfigure Capitol Way S to add buffered bike lanes as part of a resurfacing project that the City will implement by 2024.[12] Generally, the addition of bike lanes would reduce the number of vehicle lanes from four (two in each direction) to three (one in each direction plus a center turn lane). In addition, as part of the new Capitol Childcare Center (now under construction), a new pedestrian crossing of Capitol Way S is planned to be located between Maple Park Boulevard and the Plaza Garage driveway. This crosswalk, with an actuated rapid-flashing beacon, would have a center island. A southbound left-turn lane into the Plaza Garage is proposed. Because the Plaza Garage driveway is located less than 50 feet south of 15th Avenue SW, the southbound left turn lane would eliminate the ability to provide a northbound left turn lane to 15th Avenue SW.

Intersection operations were evaluated without and with the City's planned improvements. The analysis of the planned improvements determined that northbound Capitol Way S should have three lanes approaching 14th Avenue SE (a left-turn lane, a through-only lane, and a right-turn lane). This is because the right-turn movement (toward I-5) is high enough that if it has to share a lane with the through-traffic, queues could regularly back up through 15th Avenue SW and affect traffic exiting the Plaza Garage. The existing and assumed future configuration are shown on Figure 7.

11 E-mail from Dave Smith to Marni Heffron, October 22, 2020.
12 E-mail from Dave Smith to Marni Heffron, November 12, 2020. The City plans to fund the resurfacing projects from the City's annual Street Repair and Reconstruction Program. 2021 Preliminary Capital Facilities Plan. Program #0599, Pages 5-25 and 5-26. http://olympiawa.gov/~/media/Files/AdminServices/CFP/2021-2026-Preliminary-CFP.pdf?la=en

Figure 7. Existing and Assumed Future Geometry at Capitol Way S/14th Ave SW Intersection

Existing Lane Configuration	Assumed Future Lane Configuration with Buffered Bike Lanes
	

Source: Images from Synchro files. It is noted that auxiliary movements such as those to and from the Plaza Garage on 14th Avenue SE are not shown, but were accounted for in the model.

Intersection Level of Service

Levels of service with the LCM project were calculated to show how the project would affect operations with either lane configuration. Results are summarized in Table 8. It is noted that for all future conditions, the signal timings for the Capitol Way S corridor were optimized. The analysis found that without any of the planned changes on Capitol Way S, all of the intersections would operate at LOS D or better without or with the proposed LCM project.

Traffic operations with the planned buffered bike lane and pedestrian crossing on Capitol Way S are summarized in Table 9. The table shows that the signalized intersection at Capitol Way S/14th Avenue SE is expected to operate at LOS D with the street configuration changes, including the rerouted cut-through traffic that currently avoids Capitol Way S, and the LCM project. The project would add slightly to vehicle delay and queue lengths, but the intersection would operate at an acceptable level of service per the City's standards. It is noted that the northbound left-turn movement to Sid Snyder Avenue SW is a "non-critical movement" at this intersection, which means that the addition of traffic to that movement has a small effect on overall operations.

The change in lane configuration at the Capitol Way S/15th Avenue SW intersection would slightly degrade operations for the side street movements since there would be fewer gaps in the traffic stream on Capitol Way S with the lane reduction. The new pedestrian crossing would also hinder the northbound left-turn movement since no northbound left turn lane could be provided. However, with the street changes proposed by the LCM project, it would no longer be possible to access the Capitol Campus from 15th Avenue SW, so there would be fewer vehicles turning to and from 15th Avenue SW and operations would remain at acceptable levels of service. It is possible that the City would want to restrict left-turn movements at this intersection to avoid the potential that left turns block northbound through traffic. Traffic destined into the residential neighborhood could utilize other side streets further south.

The intersection at Capitol Way S/17th Avenue S would experience improved operation with the conversion of Capitol Way S from four lanes to three lanes. The provision of a center turn lane would make it easier to turn onto Capitol Way S from the side street. The LCM project would have very small effect on operation at this intersection.

The analysis shows that the LCM project would not result in the need to make further changes to the street system. The planned changes on Capitol Way S would accommodate the project and rerouted traffic. While neighborhood traffic would not be able to exit the neighborhood using Sid Snyder Avenue SW to reach the signal, the new center turn-lane on Capitol Way S would make it easier to egress the neighborhood at 17th Avenue SW.

Table 9. Level of Service – Future (2028) Conditions **without** Capitol Way S Improvements

	Without LCM Project			With LCM Project and Cut-thru Traffic Diverted to Capitol Way S		
Intersection / Movement	LOS [1]	Delay [2]	Queue [3]	LOS [1]	Delay [2]	Queue [3]
Capitol Way S / 14th Ave SE (Signalized)	C	27.3		C	34.0	
Northbound Capitol Way S	C	24.5	202'	C	35.7	281'
Southbound Capitol Way S	B	16.3	214'	C	22.7	221'
Westbound 14th Ave SE	D	49.1	236'	D	52.5	244'
Eastbound Sid Snyder Ave SW	D	39.3	86'	D	36.7	109'
Capitol Way S / 15th Ave SW (Stop Sign) [4]	A	0.5		A	0.1	
Northbound Left Turn	A	8.3	3'	A	8.2	0'
Eastbound 15th Ave SW	B	11.7	5'	B	10.9	3'
Capitol Way S / 17th Ave SW (Stop Sign) [5]	A	0.4		A	0.1	
Northbound Left Turn	A	8.5	3'	A	8.6	0'
Southbound Left Turn	A	7.8	0'	A	7.9	0'
Eastbound 17th Ave SW	B	11.8	0'	B	12.1	3'
Westbound 17th Ave SW	B	12.6	3'	B	12.7	0'

Source: Levels of service analysis performed by Heffron Transportation, Inc. using Synchro 10.3 model provided by the City of Olympia. Results reflect Highway Capacity Manual (HCM) 6th Edition.

1. *LOS = level of service*
2. *Delay = average seconds of delay per vehicle*
3. *95th percentile queue for the lane with the approach lane with the longest queue. For stop control analysis, queue lengths are reported in number of vehicles. Queue lengths are converted into feet by applying the Synchro Average Vehicle Length of 25 feet.*
4. *Side street vehicle movements would be unsignalized*

Table 10. Level of Service – Future (2028) Conditions **with** Capitol Way S Improvements

	Without LCM Project			With LCM Project and Cut-thru Traffic Diverted to Capitol Way S		
Intersection / Movement	LOS [1]	Delay [2]	Queue [3]	LOS [1]	Delay [2]	Queue [3]
Capitol Way S / 14th Ave SE (Signalized)	C	31.9		D	37.0	
Northbound Capitol Way S	C	27.2	524’	C	31.9	518’
Southbound Capitol Way S	C	20.7	422’	C	29.2	439’
Westbound 14th Ave SE	D	54.4	248’	E	60.0	267’
Eastbound Sid Snyder Ave SW	D	50.7	248’	D	49.0	144’
Capitol Way S / 15th Ave SW (Stop Sign) [4]	A	0.5		A	0.2	
Northbound Left Turn	B	11.0	5’	B	10.7	0’
Eastbound 15th Ave SW	B	14.1	5’	B	14.0	5’
Capitol Way S / 17th Ave SW (Stop Sign) [4]	A	0.5		A	0.2	
Northbound Left Turn	B	14.6	10’	B	11.8	0’
Southbound Left Turn	A	8.8	0’	A	9.3	0’
Eastbound 17th Ave SW	C	18.0	0’	C	19.9	3’
Westbound 17th Ave SW	B	10.7	0’	B	11.4	3’

Source: Levels of service analysis performed by Heffron Transportation, Inc. using Synchro 10.3 model provided by the City of Olympia. Results reflect Highway Capacity Manual (HCM) 6th Edition.

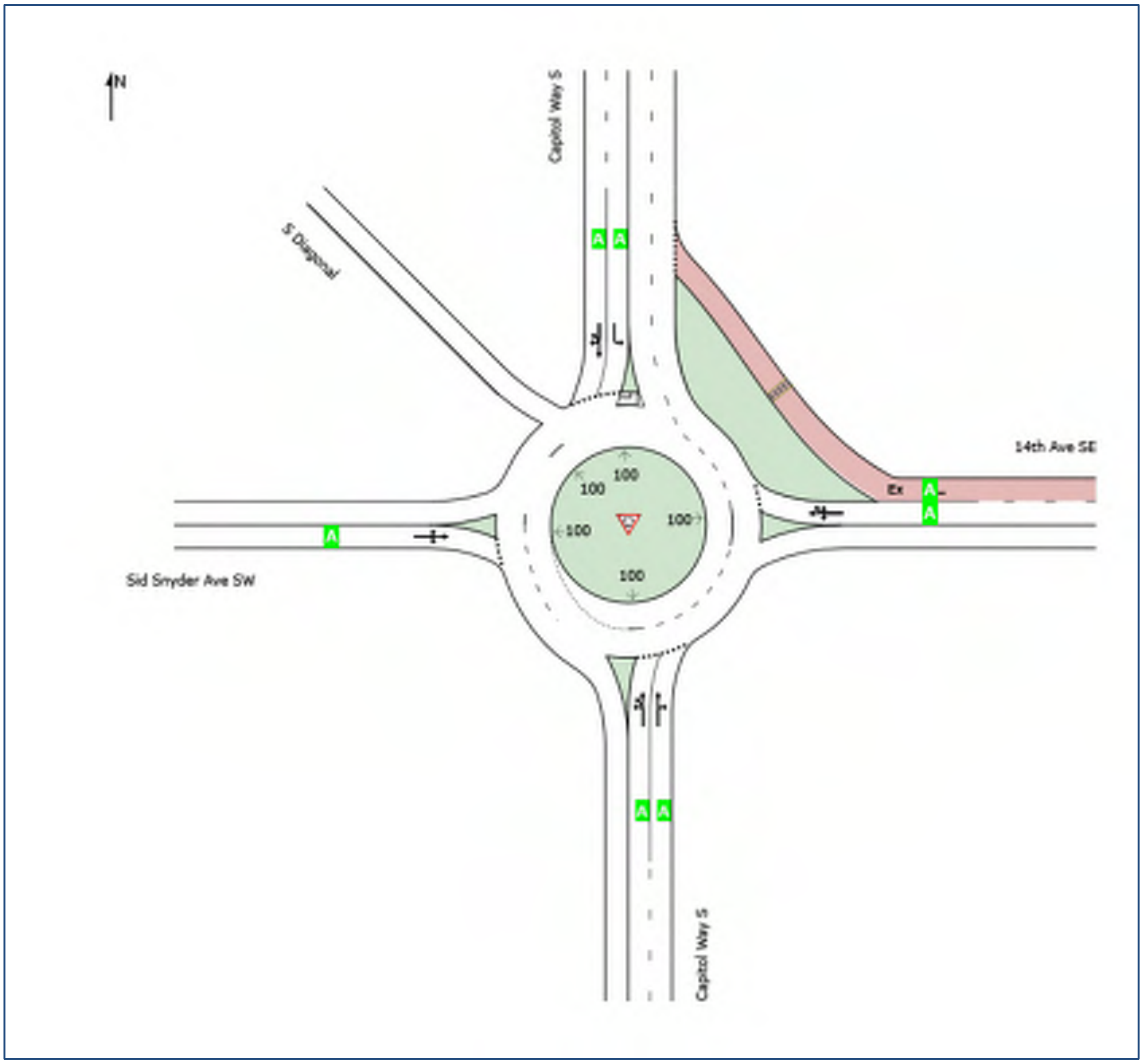
1. *LOS = level of service*
2. *Delay = average seconds of delay per vehicle*
3. *95th percentile queue for the lane with the approach lane with the longest queue. For stop control analysis, queue lengths are reported in number of vehicles. Queue lengths are converted into feet by applying the Synchro Average Vehicle Length of 25 feet.*
4. *Side street vehicle movements would be unsignalized.*

5.3. Operations with a Roundabout at Capitol Way S/14th Avenue SE

The City of Olympia has a long-term vision to install a roundabout at the Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection; however, no analysis or design has yet been prepared by the City, and there is no funding strategy. Analysis of this potential roundabout was performed to help the City understand how the LCM project could affect intersection operations and/or the physical constraints to creating a roundabout in the future. As described in the prior section, the City’s short-term improvement that would reduce the number of lanes on Capitol Way S to accommodate bike lanes would still provide acceptable levels of operation at this intersection, so a roundabout would not be needed to support the LCM project.

Heffron Transportation assessed the potential geometric needs of this intersection based on the existing and projected future intersection volumes. It is acknowledged that there are many constraints at this location including the 14th Avenue SE tunnel and parallel entry and exit ramps to the Plaza Garage, the pedestrian bridge and hillside on the south side of the intersection, and S Diagonal road on the northwest corner. Initial analysis determined that a roundabout with a single-entry lane on all approaches would result in some movements operating at LOS F. However, if Capitol Way S approaches each had two entry lanes, the roundabout would operate at LOS A during the PM peak hour in the year 2028 without or with the LCM project. The Plaza Garage exit ramp could be provided a separate slip lane to reduce potential conflicts with westbound traffic on 14th Avenue SE. It is likely that the entry lane to the Plaza Garage would either need to be closed or reconfigured to avoid “trapping” vehicles that egress the roundabout, intending to travel eastbound on 14th Avenue SE. Figure 8 shows a potential configuration for this roundabout.

Figure 8. Potential Roundabout Configuration for Capitol Way S/14th Ave SW Intersection



Source: Heffron Transportation, Inc., October 2020. Reflects a potential configuration that would operate at LOS A during the PM peak hour in the year 2028.

The analysis determined that a roundabout configuration with two lanes on Capitol Way S and one lane on Sid Snyder Avenue SW would provide acceptable operations. The LCM project, as currently proposed, would not construct structures on the southwest corner of that intersection, and would not constrain the ability for the City to construct this roundabout in the future.

6. Parking Impacts

Changes in Parking Supply and Demand due to LCM Project

ESSB 6248 states that, "*The amount of parking on the capitol campus remains the same or increases as a result of the legislative campus modernization construction projects.*" The southwest corner of the Capitol Campus (bounded by Sid Snyder Avenue SW, Capitol Way S and 15th Avenue SW) where the LCM buildings are located currently has 350 parking stalls. With the expanded building footprints and other requirements, such as critical area and security setbacks as well as enhanced landscape features, it is not possible to retain 350 parking stalls in this area without constructing structured parking, which was not foreseen in the project budget. The proposed plan includes a total of 293 parking stalls in the southwest campus area, which reflects a net loss of 57 spaces compared to current conditions.

In the foreseeable future, the LCM project is expected to accommodate the same number of legislators and staff who already work in this area of the campus, and is not expected to increase visitor trips. The only potential increase would be employees who work in Production and Design, a new space that could be located in the Newhouse replacement building. That unit is expected to have fewer than 10 employees.

Overall, the LCM project could result in a net deficit of about 65 parking stalls (a decrease of 57 stalls plus a slight increase in demand associated with Production and Design), which would need to be found elsewhere on the Capitol Campus. As described in the next section, the COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in everyday employee parking demand would open up parking capacity to use during the peak times when the legislature is in session.

6.1. Potential Reductions in Capitol Campus Parking Demand

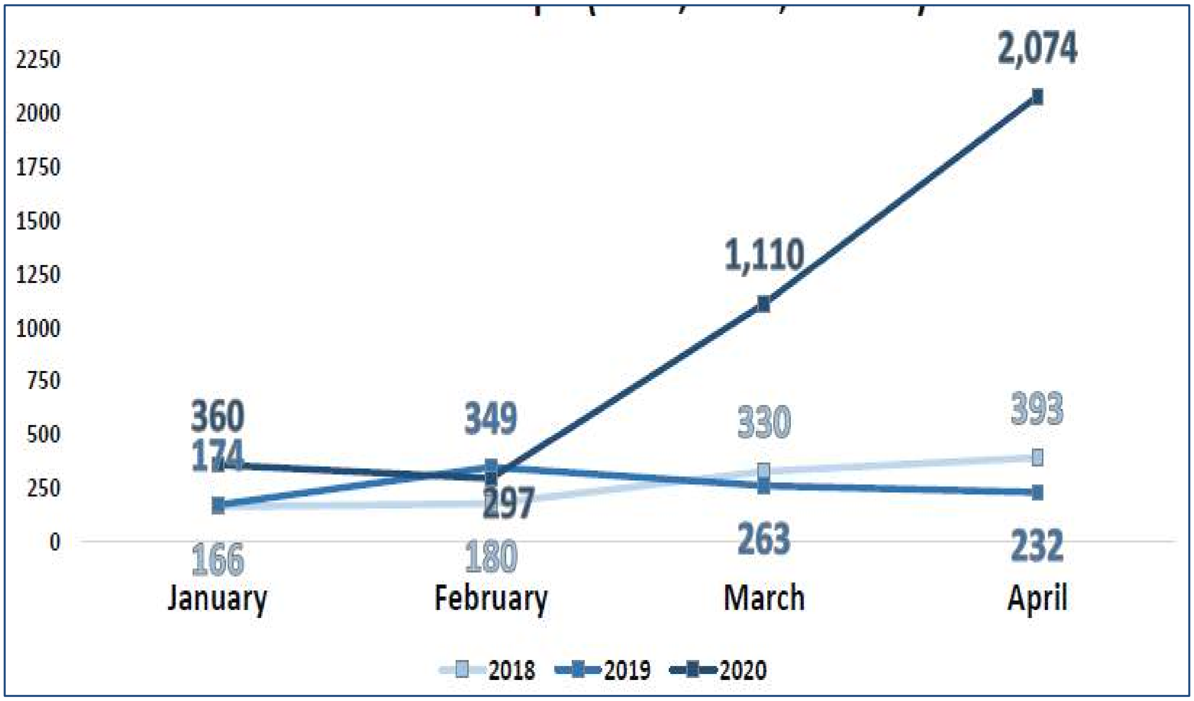
A comprehensive analysis of parking on the Capitol Campus was performed in 2014 and presented in *State of Washington Capitol Campus Transportation and Parking Study.*[13] That report collected data during the 2013 legislative session. Key findings were:

- There were 6,095 parking stalls on the Capitol Campus in 2013, including 5,517 stalls for employees and 578 stalls for visitors.
- During the 2013 session, the peak parking demand occurred mid-morning (10:00 to 11:00 A.M.) when 5,131 vehicles parked at the campus. This related to an 84% parking occupancy rate for both employee and visitor parking.
- At the time of the counts, it was estimated that approximately 71% of employees drove alone to work each day. Fewer than 2% of the employees teleworked.

In March 2020, Governor Inslee issued the *Stay Home, Stay Healthy* order to combat the COVID-19 pandemic. State employees immediately transitioned to work-from-home, which has continued throughout 2020. The Department of Enterprise services tracked the effect of this change. Parking occupancy in the largest garage on campus decreased substantially, as shown on Figure 9. The figure shows that in April 2019 during the peak of the legislature session, there were 232 parking stalls available (unused) in the Plaza Garage. In April 2020 with the stay home order in effect, there were 2,074 available stalls. Campus-wide trends were similar with about 86% of all parking stalls on campus unused in April 2020.

13 Rick Williams Consulting, Draft Final Report (V.13), September 3, 2014.

Figure 9. Average Availability of Plaza Garage Parking during Session



Source: Department of Enterprise Services, Capitol Campus Parking Data, May 2020.

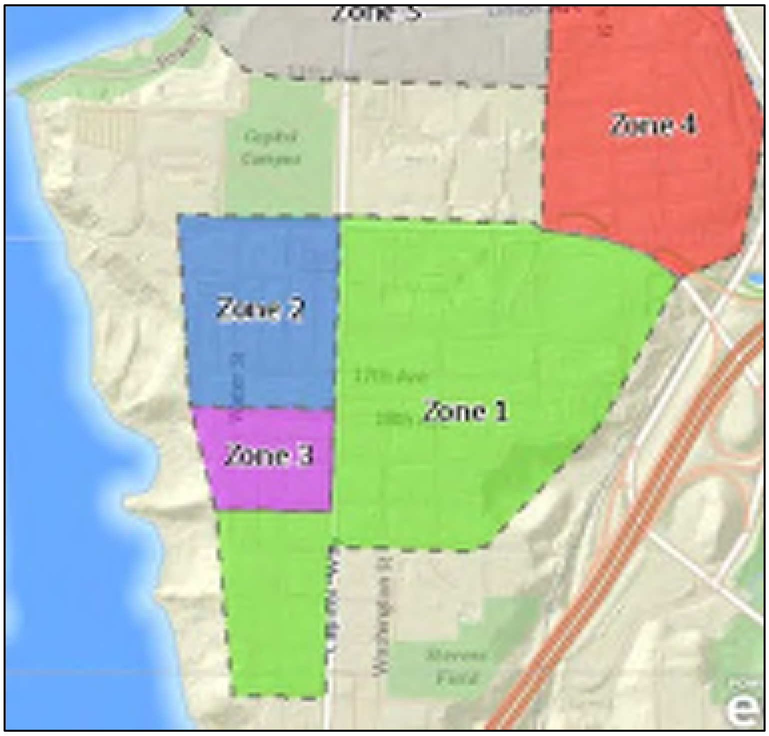
After the stay home order is lifted, it is expected that many employees will continue to work from home some days per week. Before COVID-19, there were about 5,500 parking stalls for employees on the campus. If just 10% of the employees were to work from home in the future, it could reduce parking demand by 550 vehicles. This amounts to half of all employees working from home once per week. The parking shortfall associated with the LCM project is estimated at about 65 stalls. That shortfall could be accommodated if fewer than 2% of the employees were to work from home in the future, which is highly likely given the logistical changes that have made work-from-home feasible for all. It is also noted that the long-term commute goal for the Capitol Campus seeks to reduce drive alone trips to 60%, which would require employees to shift to other modes or to telework. Reducing parking supply, making it more difficult a for employees to park, is key to motivating employees to choose alternative methods of commuting to work.

It is recommended that no additional parking beyond the 293 stalls proposed for the LCM project be built. The additional stalls needed to meet the requirements in ESSB 6248 will be available elsewhere on campus since it is highly likely that changes in employee work paradigms will continue after COVID-19. Not replacing those stalls also supports the long-term trip reduction goals for the Capitol Campus. Parking management strategies will need to be updated with the new LCM project; potential strategies are detailed in the *Summary* section below.

6.2. Neighborhood Parking Impact

Parking along streets in the adjacent South Campus Neighborhood Historic District is restricted through the City of Olympia's Residential Parking Program. Figure 10 shows the various residential parking zones. Within Zone 2, which is closest to the LCM, on-street parking is limited to 1 to 2 hours except with a permit. Residents can purchase up to 4 vehicle permits (for $10 per year) and can obtain a free guest permit. While this does not eliminate potential overspill parking, it would deter parking by employees who would park for longer than the time limit. Therefore, it is recommended that some of the remaining parking in the LCM visitor lot be designated for visitor parking to reduce potential overspill of short-term parking into the adjacent neighborhood.

Figure 10. Residential Parking Zones



Source: City of Olympia, http://olympiawa.gov/city-services/parking/residential-parking.aspx, accessed October 25, 2020.

7. Summary and Recommendations

7.1. Transportation

The proposed LCM project is not expected to increase traffic in the foreseeable future since the buildings are being designed to accommodate staff who already work in close proximity to the site. If the buildings are ever converted to another purpose with a higher employment density, they could increase traffic by up to 600 vehicle trips per day and 45 vehicle trips during the PM peak hour. These small increases are not expected to adversely affect traffic conditions in the site vicinity.

The LCM project proposes several street changes to discourage neighborhood cut-through traffic and increase security on the Capitol Campus. The key changes include constructing a diagonal traffic diverter at the Water Street SW/15th Avenue SW intersection; and reconfiguring Columbia Street SW. Together, these changes would require all campus-related traffic to access and egress the area using Sid Snyder Avenue SW or streets further north. Neighborhood traffic could use 15th Avenue SW or streets to the south to access Capitol Way S. The analysis determined that these changes would not adversely affect traffic operations at intersections along Capitol Way S, which would continue to operate at LOS E or better, an acceptable level of service for this arterial. The design of these traffic features should provide for emergency access using bollards or break-away barriers, and allow unfettered pedestrian access.

The City of Olympia plans to add protected bicycle lanes to Capitol Way S, which would change the configuration of intersections along the corridor. The area's primary intersection, at Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW would degrade slightly due to the changes, but would continue to operate at an acceptable level of service with the LCM project. The LCM would improve operation at the Capitol Way S/15th Avenue SW intersection with the bike lanes in place. No further improvements would be needed.

In the longer term, the City of Olympia plans to construct a roundabout at the Capitol Way S/14th Avenue SE/Sid Snyder Avenue SW intersection. Preliminary analysis shows that a roundabout would likely operate at a very good level of service. Unique design treatments would be needed to address the ramps that enter and exit the Plaza Garage as well as the S Diagonal roadway. A roundabout is **not needed** to accommodate the LCM project since this intersection would continue to operate at an acceptable level of service even with capacity reductions proposed by the City to accommodate future bike lanes. The LCM project, as currently proposed, would not construct structures on the southwest corner of that intersection, and would not constrain the ability for the City to construct this roundabout in the future.

7.2. Parking

The LCM project would reduce the number of parking stalls in the Southwest Campus area from 350 to 293 stalls. In the foreseeable future, the LCM project is expected to accommodate the same number of legislators and staff who already work in this area of the campus, and is not expected to increase visitor trips. The only potential increase would be employees who work in Production and Design, a new space that could be located in the Newhouse replacement building. That unit is expected to have fewer than 10 employees.

Overall, the LCM project could result in a net deficit of 80 about 65 parking stalls (a decrease of 57 stalls plus a slight increase in demand associated with Production and Design), which would need to be found elsewhere on the Capitol Campus. The COVID-19 pandemic has induced a paradigm shift by which nearly all state employees at the campus are working from home. After the pandemic ends, it is expected that many employees will continue to work from home on some days of the week. The reduction in everyday employee parking demand would open up parking capacity to use during the peak times when the legislature is in session. Therefore, it is recommended that no additional parking beyond the 293 stalls be constructed.

Parking management strategies would need to be updated with the new LCM project. Those should include:

- Identifying the number and location of visitor parking stalls. Some visitor stall should be retained in the Southwest Campus area to reduce the potential for short-term parking to overspill into the adjacent residential neighborhood.
- Updating wayfinding signage to visitor parking (including motorist signage and pedestrian signage to and from parking lots).
- Implementing employee parking pass for those who work from home one or more days per week.
- Implementing policies that spread work-from-home days over the full week (rather than concentrated on Monday or Friday).

MCH/jab/zdg

Capitol Campus LCM - Trans Analysis for Predesign - FINAL - 11-13-2020.docx

Construction Cost Summary

Owner: **Washington State DES**

Project: **Legislative Campus Modernization**

October 27, 2020

ESTIMATED COSTS SUMMARY - MODULAR OFFICE FACILITY

Item	Description	QTY	UOM	$ / UOM	Cost
1	Modular Office Building (includes associated sitework)	18,000	GSF	$189.11	$3,404,000
Total Construction Costs - Today's Dollars					**$3,404,000**
2	Hard Bid General Conditions and Support Services	2.0	mo	$50,000	$100,000
3	Contractor Fee	7.0%	on	$3,504,000	$245,280
Total Construction Costs - Today's Dollars					**$3,749,280**
4	Escalation				-
Total Construction Costs - Escalated					**See C100**

ALTERNATES

COMMENTS:

Assumes a Q2, 2023 Project Start

Estimate is based on a Design, Bid, Build delivery method

Estimate is based on purchasing the Modular Office building with maintenance to be performed by owner. No lease fees are required.

Estimate assumes Modular Office will be located in an area that will not require major utility relocations

No.	***DETAILED ESTIMATE*** Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
1	**Modular Office Building for Temporary Relocation**				
	Special Facilities				
	Modular Office Building(s) - Two Story w/ Restrooms				
	Purchase, Delivery and Installation (includes foundations, hoisting, interiors, decks, ramps, stairs) - Willscot Vendor Budget Pricing	18,000	gsf	144.44	$2,600,000
	Site Improvements				
	Required Site Improvements for Initial Placement of Building	12,000	sf	5.00	$60,000
	Site Restoration after Removal - Included w/ O'Brien TI Project			-	$0
	Utilities				
	Sewer and Water Connections	1	ls	75,000	$75,000
	Electrical Distribution & Service	1	ls	200,000	$200,000
	Temp. Utility Demolition	1	ls	25,000	$25,000
	Major Relocation of Existing Utility Lines - EXCLUDED			-	$0
	SUBTOTAL				**$2,960,000**
	Contingency			15.00%	$444,000
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$3,404,000**

Construction Cost Summary

Owner: **Washington State DES**

Project: **Legislative Campus Modernization**

November 10, 2020

ESTIMATED COSTS SUMMARY - NEWHOUSE REPLACEMENT

Item	Description	QTY	UOM	$ / UOM	Cost
1	Newhouse Replacement	64,765	GSF	$518.60	$33,587,224
2	Sitework, West of Columbia St. (incl. existing bldg demo)	93,189	SGA	$44.92	$4,185,637
3	Sitework, Columbia St.	16,811	SGA	$23.46	$394,427
4	Sitework, East of Columbia St. (incl. existing bldg demo)	72,000	SGA	$40.23	$2,896,376
5	Modular Office Buildings (see separate estimate)				$0
6	Press House TI in Leg. Building	1,394	GSF	$160.00	$223,040
7	Photovoltaic Array (80 kW rooftop only)	1	LS		$240,000
Total Direct Construction Cost					**$41,526,704**
8	Contractor Risk Contingency	3.0%	on	$41,526,704	$1,245,801
9	Sub Bonds	1.00%	on	$42,772,505	$427,725
10	General Conditions and Negotiated Support Services	10.50%	on	$43,200,230	$4,536,024
11	Contractor Fee	6.0%	on	$47,736,254	$2,864,175
Total Construction Costs - Today's Dollars					**$50,600,429**
12	Escalation				-
Total Construction Costs - Escalated					**See C100**

ALTERNATES

See End of Document

COMMENTS:

Assumes a Q2, 2023 Project Start

Estimate is based on a GCCM delivery method with all scopes of work to be competitively bid

Façade allowances are based on a contemporary classical building

Project is budgeted for an Air Source Heat Pump HVAC system

Roen Associates
500 Union St, Suite 927
Seattle, WA 98101

RØEN ASSOCIATES

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Project Duration:	TBD
Project Location:	Olympia, WA	Building GSF:	64,765
Project Start Date:	Q2, 2023	Site GSF:	See Separate Est
Estimate Date:	November 10, 2020		

ESTIMATE SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
A10	Foundations	64,765	BGSF	$34.87	$2,258,515
A20	Basement Construction	64,765	BGSF	$0.00	$0
B10	Superstructure	64,765	BGSF	$63.72	$4,126,586
B20	Exterior Enclosure	64,765	BGSF	$89.52	$5,797,574
B30	Roofing	64,765	BGSF	$6.65	$430,927
C10	Interior Construction	64,765	BGSF	$46.45	$3,008,585
C20	Stairs	64,765	BGSF	$6.18	$400,000
C30	Interior Finishes	64,765	BGSF	$30.59	$1,981,400
D10	Conveying Systems	64,765	BGSF	$7.10	$460,000
D20	Plumbing	64,765	BGSF	$15.66	$1,014,464
D30	HVAC	64,765	BGSF	$65.85	$4,264,737
D40	Fire Protection	64,765	BGSF	$5.50	$356,208
D50	Electrical	64,765	BGSF	$67.85	$4,394,361
E10	Equipment	64,765	BGSF	$2.70	$174,925
E20	Casework & Furnishings	64,765	BGSF	$6.76	$438,001
F10	Special Construction	64,765	BGSF	$1.54	$100,000
F20	Selective Demolition	64,765	BGSF	$0.00	$0
	Building Construction Subtotal				**$29,206,282**
	Estimating / Design Contingency			15.00%	$4,380,942
	Contractor Risk Contingency - See Summary				$0
	Contractor Mark Ups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	BUILDING CONSTRUCTION TOTAL	64,765	BGSF	$518.60	**$33,587,224**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	**FOUNDATIONS**				
	Foundation Earthwork				
	Included w/ Foundations Allowance			-	$0
	Foundations				
	Pile Cap and Grade Beam Foundation System - Allowance	64,765	gsf	25.00	$1,619,125
	Deep Foundation System				
	Auger cast Piles - 24", 100' Depth	60	ea	7,500.00	$450,000
	Slab-on-Grade				
	4" Slab on Grade (includes 12" baserock and vapor barrier)	15,939	sf	10.00	$159,390
	Misc. Concrete Work				
	Elevator Pits (includes waterproofing, ladder and sump grate)	2	ea	15,000.00	$30,000
	Perimeter Insulation / Waterproofing				
	Included w/ Foundations Allowance			-	$0
	SUBTOTAL FOUNDATIONS	**64,765**	**BGSF**	**$34.87**	**$2,258,515**
A20	**BASEMENT CONSTRUCTION**				
	Basement Earthwork				
	Structural Fill @ Existing Basement - See Sitework			-	$0
	SUBTOTAL BASEMENT CONSTRUCTION	**64,765**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Concrete				
	Topping Slabs w/ Reinforcing - 4.5" (floors and roof)	63,756	sf	8.50	$541,926
	Loading Dock	1	ls	15,000.00	$15,000
	Structural Steel				
	Floor and Roof Framing				
	Primary Columns and Beams (12 lbs / sf)	777,180	lbs	2.50	$1,942,950
	Cladding Support Steel per Security Protection (1 lb / sf)	64,765	lbs	2.50	$161,913
	Cladding Support Steel for Neo Classical Façade (1 lb / sf)	64,765	lbs	2.50	$161,913
	Bucking Restrained Braces (6 per floor)	24	ea	30,000	$720,000
	Metal Deck				
	2" Floor Decking	48,826	sf	3.00	$146,478
	2" Roof Decking	15,939	sf	3.00	$47,817
	Misc. Metals	64,765	gsf	1.50	$97,148
	Fireproofing				
	Structural Steel Fireproofing				
	Sprayed Cementitious Fireproofing	64,765	gsf	$ 4.50	$291,443
	SUBTOTAL SUPERSTRUCTURE	**64,765**	**BGSF**	**$63.72**	**$4,126,586**

B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction (13.5' floor to floor heights)				
	Exterior Cladding System (Precast Concrete) - 70% of total enclosure	26,641	sf	70.00	$1,864,882
	Premium for base, middle, top relief expression using modern construction methods (precast)	26,641	sf	25.00	$666,029
	Exterior Framed Wall Assembly (Int. GWB, Mtl Stud Framing, Batt Insul, Sheathing, High Performacnce WRB, Exterior Rigid Insul)	26,641	sf	38.50	$1,025,685
	Additional Air Infiltration Testing	4	ea	10,000.00	$40,000
	Roof Top Mechanical Screens (metal panels w/ steel framing)	1,720	sf	50.00	$86,000
	Exterior Canopies				
	Exterior Canopy Allowance (includes framing, finished soffit, lighting and fire protection)	1,000	sf	150.00	$150,000
	Exterior Windows				
	Aluminum Curtain Wall - 30% of total enclosure	11,418	sf	120.00	$1,370,118
	Premium for Laminated Glazing @ Lower 2 Levels	4,297	sf	10.00	$42,971
	Premium for Operable Windows	11,418	sf	5.00	$57,088
	Automated Fenestration Devices - None (contact sensors included w/ HVAC Controls)			-	$0
	Sunshades	1,436	lf	300.00	$430,800
	Exterior Doors				
	Alum. Storefront Entry Doors, Frame and HW Complete, per leaf	6	ea	6,000.00	$36,000
	Push Button ADA Auto Operators	2	ea	$ 4,000.00	$8,000
	Standard Grade HM Dr, HM Frame, Hardware, per leaf	4	ea	$ 2,500.00	$10,000
	OH Door at Ship / Rec.	1	ea	10,000.00	$10,000
	SUBTOTAL EXTERIOR ENCLOSURE	**64,765**	**BGSF**	**$89.52**	**$5,797,574**
B30	**ROOFING**				
	Roof Coverings				
	Membrane Roofing System w/ Rigid Insulation	15,939	sf	20.00	$318,780
	Parapet Copings	661	lf	25.00	$16,513
	Sheetmetal, Misc. Flashing & Blocking	15	%	318,780	$47,817
	Roof Accessories				
	Misc. Roof Accessories (Hatches, Ladders, Window Washing Davits)	15,939	sf	3.00	$47,817
	SUBTOTAL ROOFING	**64,765**	**BGSF**	**$6.65**	**$430,927**
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	Interior GWB Partitions & Assemblies - (Allowance based on conceptual floor diagrams)	64,765	gsf	22.00	$1,424,830
	Interior Glazing				
	Std. Interior Glazing Allowance (10% of GWB Assemblies Total)	15%	on	$1,424,830	$213,725
	Fire Rated Interior Glazing @ Central Stair	4	flrs	150,000	$600,000

	Interior Doors, Frames, Hardware				
	Std. Doors, Frames and HW - (Allowance based on conceptual floor diagrams, does not include doors at core and shell area)	180	ea	2,250.00	$405,000
	Push Button ADA Auto Operators	8	ea	$ 4,000.00	$32,000
	Overhead Sectional Door at Loading Dock	1	ea	$ 7,500.00	$7,500
	Rated Door Assemblies @ Core	8	ea	10,000.00	$80,000
	Fittings / Specialties				
	Toilet Accessories				
	Multi-user Restrooms (includes toilet partitions)	8	ea	10,000.00	$80,000
	Uni-Sex Toilet Rooms	8	ea	3,000.00	$24,000
	Janitorial Accessories	4	ea	3,000.00	$12,000
	Operable Partitions - None			-	$0
	Signage (excludes core and shell area)	64,765	gsf	1.00	$64,765
	Misc. Specialties Allowance (FECs, Corner Guards, etc...) - Excludes core and shell area	64,765	gsf	1.00	$64,765
	SUBTOTAL INTERIOR CONSTRUCTION	**64,765**	**BGSF**	**$46.45**	**$3,008,585**
C20	**STAIRS**				
	Stair Construction (includes sloped railings, concrete pan fill and finishes)				
	Feature Stair	3	flights	100,000	$300,000
	Back of House Pre-Engineered Metal Stairs	4	flights	25,000	$100,000
	SUBTOTAL STAIRS	**64,765**	**BGSF**	**$6.18**	**$400,000**
C30	**INTERIOR FINISHES**				
	Wall / Floor / Ceiling Finishes				
	Allow. for Office Areas (carpet, porcelain tile base, ACT w/GWB Soffits)	56,275	gsf	20.00	$1,125,500
	Allow. for Restrooms (tile floors and walls)	2,600	gsf	80.00	$208,000
	Allow. for Lobby / Waiting, Reception and Public Meeting Areas (premium floors and ceilings, wood paneling)	5,890	gsf	110.00	$647,900
	SUBTOTAL INTERIOR FINISHES	**64,765**	**BGSF**	**$30.59**	**$1,981,400**
D10	**CONVEYING SYSTEMS**				
	Elevators & Lifts				
	Passenger Elevator, 4 Stops	1	ea	180,000	$180,000
	Freight Elevator, 4 Stops	1	ea	280,000	$280,000
	SUBTOTAL CONVEYING SYSTEMS	**64,765**	**BGSF**	**$7.10**	**$460,000**
D20	**PLUMBING**				
	Plumbing				
	Rainwater Capture and Reuse	1	ls	224,000.00	$224,000
	Sanitary Waste Piping	64,765	gsf	2.19	$141,825
	Domestic Water Piping	64,765	gsf	1.58	$102,354
	Hot Water Heater and Devices	64,765	gsf	0.75	$48,271

	Plumbing Fixtures	72	ea	3,609.03	$259,850
	Plumbing Drains and Devices	98	ea	772.82	$75,736
	Oil Water Separator and Elevator Sump Pump	1	ls	6,069.00	$6,069
	Plumbing Insulation	64,765	gsf	0.37	$24,038
	GCs, OH & P	15%	on	$882,143	$132,321
	SUBTOTAL PLUMBING	**64,765**	**BGSF**	**$15.66**	**$1,014,464**
D30	**HVAC**				
	HVAC				
	Hydronic Equipment	64,765	gsf	13.08	$846,887
	Hydronic Piping System	64,765	gsf	11.77	$762,124
	Hydronic Insulation	64,765	gsf	1.43	$92,548
	HVAC Equipment	64,765	gsf	8.96	$580,601
	HVAC Ductwork, Grilles and Air Devices	64,765	gsf	9.84	$637,409
	Duct Insulation and Sound Lining	64,765	gsf	1.17	$75,598
	Controls/EMCS	64,765	gsf	5.36	$346,946
	BMS Integration with Contact Sensors for Operable Windows	64,765	gsf	1.72	$111,388
	Controls Upgrade for Enhanced Thermal Comfort	64,765	gsf	2.34	$151,550
	Air Balancing (TAB)	64,765	gsf	0.57	$36,696
	Commissioning Assistance	64,765	gsf	1.03	$66,720
	GCs, OH & P	15%	on	$3,708,467	$556,270
	SUBTOTAL HVAC	**64,765**	**BGSF**	**$65.85**	**$4,264,737**
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System per Program Requirements	64,765	gsf	5.50	$356,208
	SUBTOTAL FIRE PROTECTION	**64,765**	**BGSF**	**$5.50**	**$356,208**
D50	**ELECTRICAL**				
	Electrical				
	Distribution	64,765	gsf	3.47	$225,000
	Feeders	64,765	gsf	2.24	$145,000
	Generator & Transfer Equipment (275kVA genset, 3 ATS's)	1	ls	185,000	$185,000
	UPS System - Not described in narrative	64,765	gsf	-	
	Grounding System	64,765	gsf	0.36	$23,241
	Mechanical Equipment and Branch	64,765	gsf	3.86	$250,000
	Power Devices and Branch, EMT concealed	64,765	gsf	8.20	$531,073
	Lighting Fixture Cost LED	64,765	gsf	8.00	$518,120
	Lighting and Branch, EMT installation concealed	64,765	gsf	4.95	$320,586
	Lighting Control	64,765	gsf	2.25	$145,721
	Fire Alarm, EMT concealed	64,765	gsf	2.10	$136,006
	LV System Rough-in (Tele/Data)	64,765	gsf	1.00	$64,765
	LV System Install	64,765	gsf	3.50	$226,677

	Cable Tray	64,765	gsf	0.24	$15,494
	Clock System, Hardwired - None			-	$0
	Clocks, Wireless - OFOI			-	$0
	A/V Systems - Allowance	1	ls	150,000	$150,000
	A/V Rough-in	1	ls	50,000	$50,000
	Public Address System - Not described in narrative	64,765	gsf	-	$0
	Emergency and In-Carrier DAS System, Combined	64,765	gsf	3.50	$226,678
	CCTV System Rough-In (per camera)	25	ea	1,500.00	$37,500
	CCTV System Install (per camera)	25	ea	4,500.00	$112,500
	Access Control Rough-In (per card reader)	180	ea	1,200.00	$216,000
	Access Control System (per card reader)	180	ea	4,000.00	$720,000
	Security Devices (glass break, motion, etc…)	64,765	gsf	0.93	$60,000
	Intercom (front door, gate control)	64,765	gsf	0.54	$35,000
	SUBTOTAL ELECTRICAL	**64,765**	**BGSF**	**$67.85**	**$4,394,361**
E10	**EQUIPMENT**				
	Residential Equipment				
	Breakroom Appliance Packages (comparable w/ Helen Sommers)	4	ea	17,540.00	$70,160
	Other Equipment				
	Copier, Book Prod., Engraving Equipment - OFOI			-	$0
	Projection Screens (large size, electronic)	4	ea	10,000.00	$40,000
	Misc Equipment Allowance	64,765	gsf	1.00	$64,765
	Security Station Equipment - Included below			-	$0
	SUBTOTAL EQUIPMENT	**64,765**	**BGSF**	**$2.70**	**$174,925**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Casework				
	Office Program Fixed Casework & Misc. Millwork - Allowance	64,765	gsf	5.00	$323,825
	Window Treatment				
	Roller Shades	11,418	gsf	10.00	$114,176
	Moveable Furnishings				
	EXCLUDED			-	$0
	SUBTOTAL FURNISHINGS	**64,765**	**BGSF**	**$6.76**	**$438,001**

F10	**SPECIAL CONSTRUCTION**				
	Special Facilities				
	Security Station in Main Lobby / Reception	1	ls	100,000	$100,000
	SUBTOTAL SPECIAL CONSTRUCTION	**64,765**	**BGSF**	**$1.54**	**$100,000**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Hazardous Components Abatement				
	See separate demolition estimate			-	$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**64,765**	**BGSF**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary			$0	$0
	SUBTOTAL GENERAL REQUIREMENTS	**64,765**	**BGSF**	**$0.00**	**$0**

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Project Duration:	TBD
Project Location:	Olympia, WA	Building GSF:	64,765
Start Date:	Q2, 2023	Site Gross Area:	93,189
Estimate Date:	November 10, 2020		

ESTIMATE SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
G10	Site Preparation	93,189	sga	$18.46	$1,719,808
G20	Site Improvements	93,189	sga	$9.80	$913,177
G30	Site Civil / Mech Utilities	93,189	sga	$3.27	$304,700
G40	Site Electrical Utilities	93,189	sga	$7.53	$702,000
G50	Other Site Construction	93,189	sga	$0.00	$0
	Sitework Subtotal				**$3,639,684**
	Design Contingency			15.00%	$545,953
	Contractor Risk Contingency - See Summary				$0
	Contractor Mark Ups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	SITE CONSTRUCTION TOTAL	93,189	BGSF	$44.92	**$4,185,637**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

	DETAILED ESTIMATE		Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
G10	**SITE PREPARATON**				
	Mobilization	1	ls	30,000.00	$30,000
	Site Demolition & Relocation				
	Buildings Demolition			-	$0
	Newhouse Building	25,100	gsf	12.00	$301,200
	Shumaker House	5,576	gsf	10.00	$55,760
	Ayer Press House	3,714	gsf	10.00	$37,140
	Visitor Center Buildings (2) - See Separate Est.			-	$0
	Site Clearing, Demo of Paving, Retaining Walls, Misc…	93,189	sf	1.50	$139,784
	Site Earthwork				
	TESC and Significant Tree Protection (incl. maintenance)	93,189	sga	0.70	$65,232
	Excavation				
	Over Excavation and Structural Fill at New Building Footprint (includes filling in demolished building basement)	5,903	cy	45.00	$265,650
	Cuts / Fills @ Surround Sitework (assumes 100% imported / exported)	8,583	cy	45.00	$386,250
	Grading	93,189	sf	0.75	$69,892
	Hazardous Waste Remediation				
	Hazardous Materials Abatement in Demolished Buildings	34,390	gsf	10.00	$343,900
	Misc. Contaminated Soils Mitigation - Allowance	1	ls	25,000.00	$25,000
	SUBTOTAL SITE PREPARATON	**93,189**	**SGA**	**$18.46**	**$1,719,808**
G20	**SITE IMPROVEMENTS**				
	Site Paving / Concrete Work (Base Courses Included)				
	Reconfigure Intersection at 15th AVE SW and Columbia St SW - Allowance (includes traffic control) - See Separate Est.			-	$0
	Asphalt Paving, Parking - 3" over 8" base	79,300	sf	5.00	$396,500
	Premium for Permeable Paving at Parking Stalls Only	31,200	sf	4.00	$124,800
	15th Ave Overlay, 2" Asphalt (Capitol Way to Water Street) - See Separate Est.			-	$0
	Curbs	4,170	lf	20.00	$83,400
	Curb and Gutter	1,532	lf	35.00	$53,620
	Entry Plaza Paving w/ Pavers, Stairs and Ramp	2,365	sf	50.00	$118,250
	Concrete Sidewalks	21,880	sf	7.00	$153,160
	Striping (ADA striping counted as a stall)	207	stalls	50.00	$10,350
	Signage (ADA, Stop, Etc…)	1	ls	15,000.00	$15,000
	Site Development				
	Parking Security Guard Station (pre-manufactured building) - See Separate Est.			-	$0
	Parking Access Control Gates (includes concrete, bollards, etc…) - See Separate Est.			-	$0
	Concrete Retaining Walls - See Separate Est.				
	Retractable Bollards @ Loading Dock	4	ea	3,500.00	$14,000
	Site Furnishings, Seatwalls, Handrails, Fencing - Allowance	93,189	sga	1.00	$93,189
	Monument Sign	1	ls	30,000.00	$30,000
	Landscaping				
	Plantings w/ Irrigation & Imported Topsoil	59,610	sf	6.50	$387,465
	Bioretention Water Planting Area (includes soils)	4,135	sf	15.00	$62,025

	New Trees	75	ea	500.00	$37,500
	Pricing Breakout				
	Site Improvements Moved to Columbia St. Estimate	(16,811)	sf	7.50	($126,083)
	Site Improvements Moved to East of Columbia St. Estimate	(72,000)	sf	7.50	($540,000)
	SUBTOTAL SITE IMPROVEMENTS	**93,189**	**SGA**	**$9.80**	**$913,177**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Service Meter, Backflow in Vault	1	ls	$ 20,000	$20,000
	Double Check in Vault	1	ls	$ 20,000	$20,000
	PIV	1	ea	$ 2,500.00	$2,500
	Building Connection Water Lines (includes valves, misc.)	100	lf	$ 95.00	$9,500
	New Water Main in Columbia Street (includes valves, misc.) - See Separate Est.			$ -	$0
	FDC	1	ea	$ 2,750.00	$2,750
	Hydrant Assemblies - No new required			$ -	$0
	Tie-in at Existing	2	ea	$ 5,500.00	$11,000
	Sanitary Sewer Systems				
	Building Sewer Line	50	lf	$ 75.00	$3,750
	New Sewer Line in Columbia Street - See Separate Est.			$ -	$0
	Tie-in at Existing	1	ea	$ 5,500.00	$5,500
	Storm Sewer Systems				
	Drain Line, 12" PVC	570	lf	$ 60.00	$34,200
	Catch Basin	6	ea	$ 2,500.00	$15,000
	Detention Facility - See Separate Est.			$ -	$0
	Water Quality Treatment Vault / Modular Wetland	1	ea	$ 75,000	$75,000
	Tie-in at Existing	1	ea	$ 5,500.00	$5,500
	Other Civil / Mechanical Utilities				
	CUP Utilities (steam and chilled water)	1	ls	$ 100,000	$100,000
	Natural Gas Connection - None			-	$0
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**93,189**	**SGA**	**$3.27**	**$304,700**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities				
	Electrical Utility - Primary (12.47kV campus system, new 1500kVA substation/pad mount (future dual fed) backflow prevention)	1	ls	$ 350,000	$350,000
	Tele/Data Utility	1	ls	$ 55,000	$55,000
	Site Lighting and Power	1	ls	$ 125,000	$125,000
	Car Chargers (8 car chargers, assume 4 dual chargers)	1	ls	$ 122,000	$122,000
	Traffic Access Control - See Seperate Est.			$ -	$0
	Site Demo (Demo service conduits serving existing building and existing parking)	1	ls	$ 50,000	$50,000
	SUBTOTAL SITE ELECTRICAL UTILITIES	**93,189**	**SGA**	**$7.53**	**$702,000**

G50	**OTHER SITE CONSTRUCTION**				
					$0
	SUBTOTAL OTHER SITE CONSTRUCTION	**93,189**	**SGA**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**93,189**	**SGA**	**$0.00**	**$0**

DETAILED ESTIMATE			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
1	**Sitework, Columbia St**				
	Mobilization	1	ls	15,000.00	$15,000
	Site Preparation				
	Site Clearing	16,811	sf	1.50	$25,217
	Site Earthwork				
	TESC	16,811	sf	0.70	$11,768
	Cuts / Fills	1,868	cy	45.00	$84,055
	Grading	16,811	sf	0.75	$12,608
	Site Improvements				
	Paving, Curbs, Sidewalks, Landscaping, Etc…	16,811	sf	7.50	$126,083
	Utilities				
	New Water Main in Columbia Street (includes valves, misc.)	250	lf	$ 95.00	$23,750
	New Sewer Line in Columbia Street	300	lf	$ 75.00	$22,500
	Tie-in at Existing	4	ea	$ 5,500.00	$22,000
	SUBTOTAL				**$342,980**
	Contingency			15.00%	$51,447
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$394,427**
2	**Sitework, East of Columbia St. (incl. existing bldg demo)**				
	Mobilization	1	ls	30,000.00	$30,000
	Site Demolition & Relocation				
	Visitor Center Buildings (2)	1	ls	25,000.00	$25,000
	Site Preparation				
	Site Clearing	72,000	sf	1.50	$108,000
	Site Earthwork				
	TESC	72,000	sf	0.70	$50,400
	Cuts / Fills	8,000	cy	45.00	$360,000
	Grading	72,000	sf	0.75	$54,000
	Hazardous Waste Remediation				
	Misc. Contaminated Soils Mitigation - Allowance	1	ls	25,000.00	$25,000
	Site Improvements				
	Reconfigure Intersection at 15th AVE SW and Columbia St SW - Allowance (includes traffic control)	1	ls	200,000	$200,000
	15th Ave Overlay, 2" Asphalt (Capitol Way to Water Street)	15,000	sf	2.65	$39,750
	Parking Security Guard Station (pre-manufactured building)	1	ea	25,000.00	$25,000
	Parking Access Control Gates (includes concrete, bollards, etc…)	2	ea	40,000.00	$80,000
	Concrete Retaining Walls				
	Wall	372	sf	55.00	$20,460
	Footing	23	cy	600.00	$13,778
	Paving, Curbs, Sidewalks, Landscaping, Etc…	72,000	sf	7.50	$540,000
	Site Furnishings, Seatwalls, Handrails, Fencing - Allowance	72,000	sf	1.00	$72,000
	Increase Parking Count	13	stalls	12,500.00	$162,500
	Storm Sewer Systems				

	Drain Line, 12" PVC	870	lf	$ 60.00	$52,200
	Catch Basin	12	ea	$ 2,500.00	$30,000
	Detention Facility (20,000 cf capacity) - Allowance	1	ls	$ 400,000	$400,000
	Water Quality Treatment Vault / Modular Wetland	1	ea	$ 75,000	$75,000
	Tie-in at Existing	1	ea	$ 5,500.00	$5,500
	Electrical and Telecom Utilities				
	Site Lighting and Power	1	ls	$ 125,000	$125,000
	Traffic Access Control	1	ls	$ 25,000	$25,000
	SUBTOTAL				**$2,518,588**
	Contingency			15.00%	$377,788
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$2,896,376**
2	**Press House TI in Leg. Building**				
	Interior Construction and Finishes				
	Basic Office Tenant Improvement for Press Relocation to the Leg. Building	1,394	sf	160.00	$223,040
	Premium for Building on Historic Registry - Deleted by Owner			-	$0
	SUBTOTAL				**$223,040**
	Contingency - Included in GSF allowance above				$0
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$223,040**
3	**Photo Voltaic Array**				
	Electrical				
	PV Array - Rooftop	80	kW	3,000	$240,000
	SUBTOTAL				**$240,000**
	Contingency - Not Required			0.00%	$0
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$240,000**

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Duration:	TBD
Project Location:	Olympia, WA	Project GSF:	64,765
Start Date:	Q2, 2023	Site GSF:	93,189
Estimate Date:	November 10, 2020		

ALTERNATE ESTIMATES SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
1	Delete Permeable Paving at Parking Stalls	1	ls		($174,088)
2	Delete Columbia St SW Improvements and Utilities	1	ls		($478,436)
3	Delete Operable Windows w/ Contact Sensors Tied To Building BMS	1	ls		($235,014)
4	Delete Rainwater Capture System	1	ls		($326,052)
5	Delete Increased Controls for Wider Thermal Comfort Range	1	ls		($220,594)
6	Delete Photo Voltaic Array - Rooftop	1	ls		($291,118)

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

No.	***DETAILED ESTIMATE*** Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
1	**Delete Permeable Paving at Parking Stalls**				
	Paving				
	DEDUCT: Permeable Paving	(31,200)	sf	9.00	($280,800)
	ADD: Asphalt	31,200	sf	5.00	$156,000
	SUBTOTAL				**($124,800)**
	Contingency			15.0%	($18,720)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($30,568)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS (Escalated)				**($174,088)**
2	**Delete Columbia St SW Improvements and Utilities**				
	Sitework				
	Delete Columbia St SW Improvements and Utilites - See Breakout Est.	(1)	ls	342,979.95	($342,980)
	SUBTOTAL				**($342,980)**
	Contingency			15.0%	($51,447)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($84,009)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS (Escalated)				**($478,436)**
3	**Delete Operable Windows w/ Contact Sensors Tied To Building BMS**				
	Exterior Enclosure				
	Premium for Operable Windows	(11,418)	sf	5.00	($57,088)
	Building Controls				
	BMS Integration with Contact Sensors for Operable Windows	64,765	gsf	(1.72)	($111,388)
	SUBTOTAL				**($168,476)**
	Contingency			15.00%	($25,271)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($41,266)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($235,014)**

4	**Delete Rainwater Capture System**				
	Plumbing				
	Rainwater Capture and Reuse	(1)	ls	224,000.00	($224,000)
	SUBTOTAL				**($224,000)**
	Contingency			20.0%	($44,800)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($57,252)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS (Escalated)				**($326,052)**
5	**Delete Increased Controls for Wider Thermal Comfort Range**				
	Building Controls				
	Controls Upgrade	64,765	gsf	(2.34)	($151,550)
	SUBTOTAL				**($151,550)**
	Contingency			20.00%	($30,310)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($38,734)
	Escalation to Mid-Point (Rate pulled from 2020 version of C100)			0.0%	$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($220,594)**
6	**Delete Photo Voltaic Array - Rooftop**				
	Electrical				
	PV Array - Rooftop	(80)	kW	3,000	($240,000)
	SUBTOTAL				**($240,000)**
	Contingency - None Required				$0
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($51,118)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($291,118)**

Construction Cost Summary

Owner: **Washington State DES**

Project: **Legislative Campus Modernization**

November 10, 2020

ESTIMATED COSTS SUMMARY - PRITCHARD REPLACEMENT

Item	Description	QTY	UOM	$ / UOM	Cost
1	Pritchard Building Replacement	72,342	GSF	$561.19	$40,597,873
2	Sitework (includes existing building demolition)	117,000	SGA	$45.81	$5,360,061
3	Relocate Historic Fountain				Excluded
4	Photovoltaic Array (80 kW rooftop only)	1	LS	-	$240,000
Total Direct Construction Cost					**$46,197,933**
5	Contractor Risk Contingency	3.0%	on	$46,197,933	$1,385,938
6	Sub Bonds	1.0%	on	$47,583,871	$475,839
7	General Conditions and Negotiated Support Services	10.0%	on	$48,059,710	$4,805,971
8	Contractor Fee	6.0%	on	$52,865,681	$3,171,941
Total Construction Costs - Today's Dollars					**$56,037,622**
9	Escalation				-
Total Construction Costs - Escalated					**See C100**

ALTERNATES

See End of Document

COMMENTS:

Assumes a Q1, 2026 Project Start

Estimate is based on a GCCM delivery method with all scopes of work to be competitively bid

Façade allowances are based on a contemporary classical building

Project is budgeted for an Air Source Heat Pump HVAC system

Midpoint of Construction = Q4, 2026 @ 4% escalation per year = 24% = $69,486,651 Total Escalated Costs

Roen Associates
500 Union St, Suite 927
Seattle, WA 98101

Legislative Campus Modernization
Pritchard Building Replacement
Pre-Design Estimate

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Project Duration:	TBD
Project Location:	Olympia, WA	Building GSF:	72,342
Project Start Date:	Q1, 2026	Site GSF:	See Separate Est
Estimate Date:	November 10, 2020		

No.	***ESTIMATE SUMMARY*** Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	72,342	BGSF	$44.45	$3,215,478
A20	Basement Construction	72,342	BGSF	$0.00	$0
B10	Superstructure	72,342	BGSF	$76.25	$5,515,984
B20	Exterior Enclosure	72,342	BGSF	$96.98	$7,016,002
B30	Roofing	72,342	BGSF	$9.65	$698,460
C10	Interior Construction	72,342	BGSF	$46.07	$3,333,017
C20	Stairs	72,342	BGSF	$3.80	$275,000
C30	Interior Finishes	72,342	BGSF	$35.45	$2,564,640
D10	Conveying Systems	72,342	BGSF	$4.77	$345,000
D20	Plumbing	72,342	BGSF	$12.49	$903,765
D30	HVAC	72,342	BGSF	$62.96	$4,554,306
D40	Fire Protection	72,342	BGSF	$5.50	$397,881
D50	Electrical	72,342	BGSF	$66.75	$4,828,721
E10	Equipment	72,342	BGSF	$12.61	$912,502
E20	Casework & Furnishings	72,342	BGSF	$8.87	$641,742
F10	Special Construction	72,342	BGSF	$1.38	$100,000
F20	Selective Demolition	72,342	BGSF	$0.00	$0
	Building Construction Subtotal				**$35,302,498**
	Estimating / Design Contingency			15.00%	$5,295,375
	Contractor Risk Contingency - See Summary				$0
	Contractor Mark Ups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	BUILDING CONSTRUCTION TOTAL	72,342	BGSF	$561.19	**$40,597,873**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

	DETAILED ESTIMATE		Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
A10	**FOUNDATIONS**				
	Foundation Earthwork				
	Included w/ Foundations Allowance			-	$0
	Foundations				
	Pile Cap Foundation System - Allowance	72,342	gsf	25.00	$1,808,550
	Deep Foundation System				
	Auger cast Piles - 24", 100' Depth	140	ea	7,500.00	$1,050,000
	Slab-on-Grade				
	8" Reinforced Two-Way Slab on Grade (includes 12" baserock and vapo	19,183	sf	16.00	$306,928
	Misc. Concrete Work				
	Elevator Pits (includes waterproofing, ladder and sump grate)	2	ea	25,000.00	$50,000
	Perimeter Insulation / Waterproofing				
	Included w/ Foundations Allowance			-	$0
	SUBTOTAL FOUNDATIONS	**72,342**	**BGSF**	**$44.45**	**$3,215,478**
A20	**BASEMENT CONSTRUCTION**				
	Basement Earthwork				
	See Sitework			-	$0
	SUBTOTAL BASEMENT CONSTRUCTION	**72,342**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Concrete				
	Topping Slabs w/ Reinforcing - 4.5" (floors and roof)	78,255	sf	8.50	$665,168
	Loading Dock	1	ls	15,000.00	$15,000
	Structural Steel				
	Floor and Roof Framing				
	Primary Columns and Beams (13 lbs / sf)	1,030,146	lbs	2.50	$2,575,365
	Cladding Support Steel per Security Protection (0.5 lb / sf)	39,621	lbs	2.50	$99,053
	Two-story Cantilever Trusses	220,000	lbs	2.50	$550,000
	Bucking Restrained Braces (10 per floor)	30	ea	30,000	$900,000
	Metal Deck				
	2" Floor Decking	53,157	sf	3.50	$186,050
	2" Roof Decking	26,085	sf	3.50	$91,298
	Misc. Metals	72,342	gsf	1.50	$108,513
	Fireproofing				
	Structural Steel Fireproofing				
	Sprayed Cementitious Fireproofing	72,342	gsf	$ 4.50	$325,539
	SUBTOTAL SUPERSTRUCTURE	**72,342**	**BGSF**	**$76.25**	**$5,515,984**

B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction				
	Exterior Cladding System (Precast Panels) - 70% of total enclosure	30,341	sf	70.00	$2,123,856
	Premium for base, middle, top relief expression using modern construction methods (precast)	30,341	sf	25.00	$758,520
	Exterior Framed Wall Assembly (Int. GWB, Mtl Stud Framing, Batt Insul, Sheathing, High Performance WRB, Exterior Rigid Insul)	30,341	sf	38.50	$1,168,121
	Additional Air Infiltration Testing (above normal)	4	ea	10,000.00	$40,000
	Roof Top Mechanical Screens (metal panels w/ steel framing)	3,450	sf	50.00	$172,500
	Exterior Soffits / Canopies				
	Soffit Finish @ Cantilever	6,900	sf	70.00	$483,000
	Exterior Canopy Allowance (includes framing, finished soffit, lighting and fire protection)	500	sf	150.00	$75,000
	Exterior Windows				
	Aluminum Curtain Wall - 30% of total enclosure	13,003	sf	120.00	$1,560,384
	Premium for Laminated Glazing @ Lower 2 Levels	7,151	sf	10.00	$71,505
	Premium for Operable Windows	13,003	sf	5.00	$65,016
	Automated Fenestration Devices - None (contact sensors included w/ HVAC Controls)			-	$0
	Sunshades	1,407	lf	300.00	$422,100
	Exterior Doors				
	Alum. Storefront Entry Doors, Frame and HW Complete, per leaf	8	ea	6,000.00	$48,000
	Push Button ADA Auto Operators	2	ea	$ 4,000.00	$8,000
	Standard Grade HM Dr, HM Frame, Hardware, per leaf	4	ea	$ 2,500.00	$10,000
	OH Door at Ship / Rec.	1	ea	10,000.00	$10,000
	SUBTOTAL EXTERIOR ENCLOSURE	**72,342**	**BGSF**	**$96.98**	**$7,016,002**
B30	**ROOFING**				
	Roof Coverings				
	Membrane Roofing System w/ Rigid Insulation	26,085	sf	20.00	$521,700
	Parapet Copings	810	lf	25.00	$20,250
	Sheetmetal, Misc. Flashing & Blocking	15	%	521,700	$78,255
	Roof Accessories				
	Misc. Roof Accessories (Hatches, Ladders, Window Washing Davits)	26,085	sf	3	$78,255
	SUBTOTAL ROOFING	**72,342**	**BGSF**	**$9.65**	**$698,460**
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	Interior GWB Partitions & Assemblies - (Allowance based on conceptual floor diagrams)	72,342	gsf	25.00	$1,808,550
	Interior Glazing				
	Std. Interior Glazing Allowance (10% of GWB Assemblies Total)	15%	on	$1,808,550	$271,283
	Fire Rated Interior Glazing @ Central Stair	3	flrs	150,000	$450,000

	Interior Doors, Frames, Hardware				
	Std. Doors, Frames and HW - (Allowance based on conceptual floor diagrams, does not include doors at core and shell area)	200	ea	2,250.00	$450,000
	Push Button ADA Auto Operators	6	ea	$ 4,000.00	$24,000
	Overhead Sectional Door at Loading Dock	1	ea	$ 7,500.00	$7,500
	Rated Door Assemblies @ Core	6	ea	10,000.00	$60,000
	Fittings / Specialties				
	Toilet Accessories				
	Multi-user Restrooms (includes toilet partitions)	6	ea	15,000.00	$90,000
	Uni-Sex Toilet Rooms	6	ea	3,000.00	$18,000
	Janitorial Accessories	3	ea	3,000.00	$9,000
	Operable Partitions - None			-	$0
	Signage	72,342	gsf	1.00	$72,342
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	72,342	gsf	1.00	$72,342
	SUBTOTAL INTERIOR CONSTRUCTION	**72,342**	**BGSF**	**$46.07**	**$3,333,017**
C20	**STAIRS**				
	Stair Construction (includes sloped railings, concrete pan fill and finishes)				
	Feature Stair	2	flights	100,000	$200,000
	Back of House Pre-Engineered Metal Stairs	3	flights	25,000	$75,000
	SUBTOTAL STAIRS	**72,342**	**BGSF**	**$3.80**	**$275,000**
C30	**INTERIOR FINISHES**				
	Wall / Floor / Ceiling Finishes				
	Allow. for Office Areas (carpet, porcelain tile base, ACT w/GWB Soffits)	60,842	gsf	20.00	$1,216,840
	Allow. for Restrooms (tile floors and walls)	2,240	gsf	80.00	$179,200
	Allow. for Entry Lobby, Large Hearing Room, Cafeteria, Elevator Lobbies (premium floors and ceilings, wood paneling)	9,260	gsf	110.00	$1,018,600
	Relocation of the Callahan and Fitzgerald Murals (includes removal, storage and re-installation)	1	ls	150,000.00	$150,000
	SUBTOTAL INTERIOR FINISHES	**72,342**	**BGSF**	**$35.45**	**$2,564,640**
D10	**CONVEYING SYSTEMS**				
	Elevators & Lifts				
	Passenger Elevator, 3 Stops	1	ea	135,000	$135,000
	Freight Elevator, 3 Stops	1	ea	210,000	$210,000
	SUBTOTAL CONVEYING SYSTEMS	**72,342**	**BGSF**	**$4.77**	**$345,000**

D20	**PLUMBING**				
	Plumbing				
	Rainwater Capture and Reuse	1	ls	228,000.00	$228,000
	Sanitary Waste Piping	72,342	gsf	1.71	$123,764
	Domestic Water Piping	72,342	gsf	1.19	$85,747
	Hot Water Heater and Devices	72,342	gsf	0.68	$48,948
	Plumbing Fixtures	72	ea	2,802.93	$201,811
	Plumbing Drains and Devices	98	ea	728.85	$71,427
	Oil Water Separator and Elevator Sump Pump	1	ls	6,105.00	$6,105
	Plumbing Insulation	72,342	gsf	0.28	$20,081
	GCs, OH & P	15%	on	$785,883	$117,882
	SUBTOTAL PLUMBING	**72,342**	**BGSF**	**$12.49**	**$903,765**
D30	**HVAC**				
	HVAC				
	Hydronic Equipment	72,342	gsf	12.65	$914,775
	Hydronic Piping System	72,342	gsf	11.62	$840,880
	Hydronic Insulation	72,342	gsf	1.46	$105,436
	HVAC Equipment	72,342	gsf	8.79	$635,744
	HVAC Ductwork, Grilles and Air Devices	72,342	gsf	8.18	$591,498
	Duct Insulation and Sound Lining	72,342	gsf	0.99	$71,711
	Controls/EMCS	72,342	gsf	5.41	$391,103
	BMS Integration with Contact Sensors for Operable Windows	72,342	gsf	1.72	$124,370
	Controls Upgrade for Enhanced Thermal Comfort	72,342	gsf	2.34	$169,280
	Air Balancing (TAB)	72,342	gsf	0.57	$40,973
	Commissioning Assistance	72,342	gsf	1.03	$74,496
	GCs, OH & P	15%	on	$3,960,266	$594,040
	SUBTOTAL HVAC	**72,342**	**BGSF**	**$62.96**	**$4,554,306**
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System per Program Requirements	72,342	gsf	5.50	$397,881
	SUBTOTAL FIRE PROTECTION	**72,342**	**BGSF**	**$5.50**	**$397,881**
D50	**ELECTRICAL**				
	Electrical				
	Distribution	72,342	gsf	3.46	$250,000
	Feeders	72,342	gsf	2.07	$150,000
	Generator & Transfer Equipment (275kVA genset, 3 ATS's)	1	ls	185,000	$185,000
	UPS System - Not described in narrative	72,342	gsf	-	
	Grounding System	72,342	gsf	0.36	$25,960

	Mechanical Equipment and Branch	72,342	gsf	3.94	$285,000
	Power Devices and Branch, EMT concealed	72,342	gsf	8.20	$593,204
	Lighting Fixture Cost LED	72,342	gsf	8.00	$578,736
	Lighting and Branch, EMT installation concealed	72,342	gsf	4.95	$358,092
	Lighting Control	72,342	gsf	2.25	$162,769
	Fire Alarm, EMT concealed	72,342	gsf	2.10	$151,918
	LV System Rough-in (Tele/Data)	72,342	gsf	1.00	$72,342
	LV System Install	72,342	gsf	3.50	$253,197
	Cable Tray	72,342	gsf	0.24	$17,306
	Clock System, Hardwired - None			-	$0
	Clocks, Wireless - OFOI			-	$0
	A/V Systems - Allowance	1	ls	165,000	$165,000
	A/V Rough-in	1	ls	60,000	$60,000
	Public Address System - Not described in narrative	72,342	gsf	-	$0
	Emergency and In-Carrier DAS System, Combined	72,342	gsf	3.50	$253,197
	CCTV System Rough-In (per camera)	20	ea	1,650.00	$33,000
	CCTV System Install (per camera)	20	ea	4,950.00	$99,000
	Access Control Rough-In (per card reader)	200	ea	1,200.00	$240,000
	Access Control System (per card reader)	200	ea	4,000.00	$800,000
	Security Devices (glass break, motion, etc…)	72,342	gsf	0.83	$60,000
	Intercom (front door, gate control)	72,342	gsf	0.48	$35,000
	SUBTOTAL ELECTRICAL	**72,342**	**BGSF**	**$66.75**	**$4,828,721**
E10	**EQUIPMENT**				
	Commercial Equipment				
	Kitchen Equip. and Food Service Casework for Cafeteria and Grab & Go	1	ls	750,000	$750,000
	Residential Equipment				
	Breakroom Appliance Packages (comparable w/ Helen Sommers)	4	ea	17,540.00	$70,160
	Other Equipment				
	Projection Screens (large size, electronic)	2	ea	10,000.00	$20,000
	Misc Equipment Allowance	72,342	gsf	1.00	$72,342
	Security Station Equipment - Included below			-	$0
	SUBTOTAL EQUIPMENT	**72,342**	**BGSF**	**$12.61**	**$912,502**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Casework				
	Cafeteria and Grab and Go Food Service Casework - Incl w/ Equip.			-	$0
	Hearing Room Fixed Casework (includes fixed wood pews and stepped podium)	1	ls	150,000	$150,000
	Office Program Fixed Casework & Misc. Millwork - Allowance	72,342	gsf	5.00	$361,710
	Window Treatment				
	Roller Shades	13,003	gsf	10.00	$130,032

	Moveable Furnishings				
	EXCLUDED			-	$0
	SUBTOTAL FURNISHINGS	**72,342**	**BGSF**	**$8.87**	**$641,742**
F10	**SPECIAL CONSTRUCTION**				
	Special Facilities				
	Security Station in Main Lobby / Reception	1	ls	100,000	$100,000
	SUBTOTAL SPECIAL CONSTRUCTION	**72,342**	**BGSF**	**$1.38**	**$100,000**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Hazardous Components Abatement				
	See separate demolition estimate			-	$0
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**72,342**	**BGSF**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary			$0	$0
	SUBTOTAL GENERAL REQUIREMENTS	**72,342**	**BGSF**	**$0.00**	**$0**

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Project Duration:	TBD
Project Location:	Olympia, WA	Building GSF:	72,342
Start Date:	Q1, 2026	Site Gross Area:	117,000
Estimate Date:	November 10, 2020		

ESTIMATE SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
G10	Site Preparation	117,000	sga	$19.44	$2,274,000
G20	Site Improvements	117,000	sga	$9.18	$1,073,823
G30	Site Civil / Mech Utilities	117,000	sga	$4.58	$536,100
G40	Site Electrical Utilities	117,000	sga	$6.64	$777,000
G50	Other Site Construction	117,000	sga	$0.00	$0
	Sitework Subtotal				**$4,660,923**
	Design Contingency			15.00%	$699,138
	Contractor Risk Contingency - See Summary				$0
	Contractor Mark Ups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	SITE CONSTRUCTION TOTAL	117,000	BGSF	$45.81	**$5,360,061**
	Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.				

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	Mobilization	1	ls	75,000.00	$75,000
	Site Demolition & Relocation				
	Buildings Demolition				
	Pritchard Building & Stacks	54,410	gsf	12.00	$652,920
	Site Clearing, Demo of Paving, Retaining Walls, Misc…	117,000	sf	1.50	$175,500
	Site Earthwork				
	TESC and Significant Tree Protection (incl. maintenance)	117,000	sga	0.70	$81,900
	Excavation				
	Over Excavation and Structural Fill at New Building Footprint	5,684	cy	45.00	$255,773
	Cuts / Fills @ Surround Sitework (assumes 100% imported / exported)	7,246	cy	45.00	$326,057
	Grading	117,000	sf	0.75	$87,750
	Hazardous Waste Remediation				
	Hazardous Materials Abatement in Demolished Buildings	54,410	gsf	10.00	$544,100
	Existing Tank and Misc. Contaminated Soils Mitigation - Allowance	1	ls	75,000.00	$75,000
	SUBTOTAL SITE PREPARATON	**117,000**	**SGA**	**$19.44**	**$2,274,000**
G20	**SITE IMPROVEMENTS**				
	Site Paving / Concrete Work (Base Courses Included)				
	Asphalt Paving, Parking - 3" over 8" base	35,685	sf	5.00	$178,425
	Water Street Overlay, 2" Asphalt (15th Ave to 16th Ave)	7,000	sf	2.65	$18,550
	Curbs	1,800	lf	20.00	$36,000
	Curb and Gutter	495	lf	35.00	$17,325
	Entry Plaza Paving w/ Pavers & Amenities	4,140	sf	40.00	$165,600
	Concrete Sidewalks	7,170	sf	7.00	$50,190
	Stairs on Grade	63	lf	25.00	$1,575
	Striping (ADA striping counted as a stall)	76	stalls	50.00	$3,800
	Signage (ADA, Stop, Etc…)	1	ls	10,000.00	$10,000
	Site Development				
	Site Furnishings, Seatwalls, Handrails, Fencing - Allowance	117,000	sga	1.00	$117,000
	Monument Sign	1	ls	30,000.00	$30,000
	Landscaping				
	Plantings w/ Irrigation & Imported Topsoil	50,055	sf	6.50	$325,358
	Bioretention Water Planting Area - None Shown			-	$0
	New Trees	15	ea	500.00	$7,500
	Remove Invasive Species and Restoration- Allowance	15,000	sf	7.50	$112,500
	SUBTOTAL SITE IMPROVEMENTS	**117,000**	**SGA**	**$9.18**	**$1,073,823**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Service Meter, Backflow in Vault	1	ls	$ 20,000	$20,000
	Double Check in Vault	1	ls	$ 20,000	$20,000

	PIV	1	ea	$ 2,500.00	$2,500
	Water Lines (includes Tee's and Gate Valves)	620	lf	$ 95.00	$58,900
	FDC	1	ea	$ 2,750.00	$2,750
	Hydrant Assemblies	2	ea	$ 4,500.00	$9,000
	Tie-in at Existing	1	ea	$ 5,500.00	$5,500
	Sanitary Sewer Systems				
	Sewer Lines - 8"	550	lf	$ 75.00	$41,250
	Manholes	2	ea	$ 3,500.00	$7,000
	Tie-in at Existing	1	ea	$ 5,500.00	$5,500
	Storm Sewer Systems				
	Drain Line, 12" PVC	1,170	lf	$ 60.00	$70,200
	Catch Basin	13	ea	$ 2,500.00	$32,500
	Water Quality Treatment Vault / Modular Wetland	2	ea	$ 75,000	$150,000
	Tie-in at Existing	2	ea	$ 5,500.00	$11,000
	Other Civil / Mechanical Utilities				
	CUP Utilities (steam and chilled water)	1	ls	$ 100,000	$100,000
	Natural Gas Connection - None			-	$0
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**117,000**	**SGA**	**$4.58**	**$536,100**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities				
	Electrical Utility - Primary (12.47kV campus system, new 1500kVA substation/pad mount (future dual fed) backflow prevention)	1	ls	$ 350,000	$350,000
	Tele/Data Utility	1	ls	$ 55,000	$55,000
	Site Lighting and Power	1	ls	$ 175,000	$175,000
	Car Chargers (8 car chargers, assume 4 dual chargers)	1	ls	$ 122,000	$122,000
	Traffic Access Control	1	ls	$ 25,000	$25,000
	Site Demo (Demo service conduits serving existing building and existing parking)	1	ls	$ 50,000	$50,000
	SUBTOTAL SITE ELECTRICAL UTILITIES	**117,000**	**SGA**	**$6.64**	**$777,000**
G50	**OTHER SITE CONSTRUCTION**				
					$0
	SUBTOTAL OTHER SITE CONSTRUCTION	**117,000**	**SGA**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**117,000**	**SGA**	**$0.00**	**$0**

DETAILED ESTIMATE			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
1	**Photo Voltaic Array**				
	Electrical				
	PV Array - Rooftop	80	kW	3,000	$240,000
	SUBTOTAL				**$240,000**
	Contingency - Not Required			0.00%	$0
	MACC Risk Contingency - See Summary				$0
	Markups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**$240,000**

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Duration:	TBD
Project Location:	Olympia, WA	Project GSF:	See Detail Est.
Start Date:	Q1, 2026	Site GSF:	See Detail Est.
Estimate Date:	November 10, 2020		

ALTERNATE ESTIMATES SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
1	Delete Removal of Invasive Species and Restoration	1	ls		($156,931)
2	Delete Rainwater Capture System	1	ls		($318,046)
3	Delete Operable Windows w/ Contact Sensors Tied To Bldg BMS	1	ls		($264,182)
4	Delete Increased Controls for Wider Thermal Comfort Range	1	ls		($271,555)
5	Delete Rooftop PV Array	1	ls		($291,118)

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

Alt No.	***DETAILED ESTIMATES*** Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
1	**Delete Removal of Invasive Species and Restoration**				
	Landscaping				
	Allowance	(15,000)	sf	7.50	($112,500)
	SUBTOTAL				**($112,500)**
	Contingency			15.00%	($16,875)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($27,556)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($156,931)**
2	**Delete Rainwater Capture System**				
	Plumbing				
	Rainwater Capture and Reuse	(1)	ls	228,000.00	($228,000)
	SUBTOTAL				**($228,000)**
	Contingency			15.00%	($34,200)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($55,846)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($318,046)**
3	**Delete Operable Windows w/ Contact Sensors Tied To Bldg BMS**				
	Exterior Enclosure				
	Premium for Operable Windows	(13,003)	sf	5.00	($65,016)
	Building Controls				
	BMS Integration with Contact Sensors for Operable Windows	72,342	gsf	(1.72)	($124,370)
	SUBTOTAL				**($189,386)**
	Contingency			15.00%	($28,408)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($46,388)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($264,182)**
4	**Delete Increased Controls for Wider Thermal Comfort Range**				
	Building Controls				
	Controls Upgrade (includes HVAC contractor mark up)	72,342	gsf	(2.69)	($194,672)
	SUBTOTAL				**($194,672)**
	Contingency			15.00%	($29,201)
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($47,683)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($271,555)**

5	**Delete Rooftop PV Array**				
	Electrical				
	PV Array - Rooftop	(80)	kW	3,000	($240,000)
	SUBTOTAL				**($240,000)**
	Contingency - None Required				$0
	GCCM Mark ups (Risk Contingency, Bonds, GCs & Fee)			21.3%	($51,118)
	Escalation to Mid-Point - EXCLUDED				$0
	TOTAL ESTIMATED CONSTRUCTION COSTS				**($291,118)**

Construction Cost Summary

Owner: **Washington State DES**

Project: **Legislative Campus Modernization**

November 10, 2020

ESTIMATED COSTS SUMMARY - O'BRIEN TENANT IMPROVEMENT

Item	Description	QTY	UOM	$ / UOM	Cost
1	O'Brien Building 3rd and 4th Floor TI	17,630	GSF	$100.43	$1,770,633
2	Replacement of HVAC Equipment (past it's usable life) - Allowance	17,630	GSF	$4.25	$75,000
3	Access Control and CCTV Systems (very intensive similar to Newhouse and Pritchard) - Allowance	17,630	GSF	$17.50	$308,525
Total Direct Construction Cost					**$2,154,158**
4	Contractor Risk Contingency	3.0%	on	$2,154,158	$64,625
5	Sub Bonds	1.0%	on	$2,218,783	$22,188
6	General Conditions and Negotiated Support Services	15.0%	on	$2,240,971	$336,146
7	Contractor Fee	7.0%	on	$2,577,116	$180,398
Total Construction Costs - Today's Dollars					**$2,757,514**
8	Escalation				-
Total Construction Costs - Escalated					**See C100**

ADD ALTERNATES (includes all mark ups)

COMMENTS:

Assumes a Q2, 2028 Project Start

Estimate is based on a GCCM delivery method with all scopes of work to be competitively bid

Due to the long span of time until this project starts we recommend an average escalation rate of 4% per year to the midpoint of construction be factored into the C100 document.

Midpoint of Construction = Q3, 2028 @ 4% escalation per year = 31% = $3,612,344 Total Escalated Costs

Roen Associates
500 Union St, Suite 927
Seattle, WA 98101

ROEN ASSOCIATES

Project Owner:	**Washington State DES**	Architect:	Mithun
Project Name:	**Legislative Campus Modernization**	Project Duration:	TBD
Project Location:	Olympia, WA	Project Area GSF:	17,630
Project Start Date:	Q2, 2028	Site GSF:	-
Estimate Date:	November 10, 2020		

ESTIMATE SUMMARY			Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
A10	Foundations	17,630	BGSF	$0.00	$0
A20	Basement Construction	17,630	BGSF	$0.00	$0
B10	Superstructure	17,630	BGSF	$0.50	$8,815
B20	Exterior Enclosure	17,630	BGSF	$0.00	$0
B30	Roofing	17,630	BGSF	$0.00	$0
C10	Interior Construction	17,630	BGSF	$9.33	$164,556
C20	Stairs	17,630	BGSF	$0.00	$0
C30	Interior Finishes	17,630	BGSF	$20.00	$352,600
D10	Conveying Systems	17,630	BGSF	$0.00	$0
D20	Plumbing	17,630	BGSF	$0.00	$0
D30	HVAC	17,630	BGSF	$5.40	$95,138
D40	Fire Protection	17,630	BGSF	$2.00	$35,260
D50	Electrical	17,630	BGSF	$36.89	$650,306
E10	Equipment	17,630	BGSF	$0.00	$0
E20	Casework & Furnishings	17,630	BGSF	$6.13	$108,150
F10	Special Construction	17,630	BGSF	$0.00	$0
F20	Selective Demolition	17,630	BGSF	$7.08	$124,856
	Building Construction Subtotal				**$1,539,681**
	Estimating / Design Contingency			15.00%	$230,952
	Contractor Risk Contingency - See Summary				$0
	Contractor Mark Ups - See Summary				$0
	Escalation to Mid-Point - See Summary				$0
	BUILDING CONSTRUCTION TOTAL	17,630	BGSF	$100.43	**$1,770,633**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings and sales tax.

	DETAILED ESTIMATE		Unit of	Unit	Total Estimated
No.	Description	Quantity	Measure	Cost	Cost
A10	**FOUNDATIONS**				
	Foundations				
	No Work			-	$0
	SUBTOTAL FOUNDATIONS	**17,630**	**BGSF**	**$0.00**	**$0**
A20	**BASEMENT CONSTRUCTION**				
	Basement Earthwork				
	No Work			-	$0
	SUBTOTAL BASEMENT CONSTRUCTION	**17,630**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Concrete				
	No Work				
	Structural Steel				
	Misc. Architectural Metals	17,630	gsf	0.50	$8,815
	SUBTOTAL SUPERSTRUCTURE	**17,630**	**BGSF**	**$0.50**	**$8,815**
B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction				
	Patching of GWB - Included w/ Interior Construction				
	Exterior Windows				
	No Work			-	$0
	SUBTOTAL EXTERIOR ENCLOSURE	**17,630**	**BGSF**	**$0.00**	**$0**
B30	**ROOFING**				
	Roof Coverings				
	No Work			-	$0
	SUBTOTAL ROOFING	**17,630**	**BGSF**	**$0.00**	**$0**
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	New Interior GWB Partitions	2,265	sf	18.00	$40,770
	Infill Openings at Removed Doors	36	ea	550.00	$19,800
	Misc. framing at new door openings cut into existing partitions	21	ea	840.00	$17,640
	Interior Glazing				
	Std. Interior Glazing Allowance (10% of GWB Assemblies Total)	15%	on	$60,570	$9,086
	Interior Doors, Frames, Hardware				
	Std. Doors, Frames and HW - (Allowance based on conceptual floor diagrams, does not include doors at core and shell area)	21	ea	2,000.00	$42,000

	Fittings / Specialties				
	Toilet Accessories - None			-	$0
	Visual Display Specialties (Marker & Tack Boards) - OFOI			-	$0
	Signage	17,630	gsf	1.00	$17,630
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	17,630	gsf	1.00	$17,630
	SUBTOTAL INTERIOR CONSTRUCTION	**17,630**	**BGSF**	**$9.33**	**$164,556**
C20	**STAIRS**				
	Stair Construction (includes sloped railings, concrete pan fill and finishes)				
	No Work			-	$0
	SUBTOTAL STAIRS	**17,630**	**BGSF**	**$0.00**	**$0**
C30	**INTERIOR FINISHES**				
	Wall / Floor / Ceiling Finishes				
	Allow. for Office Areas (paint, carpet, rubber base, ACT)	17,630	gsf	20.00	$352,600
	SUBTOTAL INTERIOR FINISHES	**17,630**	**BGSF**	**$20.00**	**$352,600**
D10	**CONVEYING SYSTEMS**				
	Elevators & Lifts				
	No Work			-	$0
	SUBTOTAL CONVEYING SYSTEMS	**17,630**	**BGSF**	**$0.00**	**$0**
D20	**PLUMBING**				
	Plumbing				
	No Work			-	$0
	SUBTOTAL PLUMBING	**17,630**	**BGSF**	**$0.00**	**$0**
D30	**HVAC**				
	HVAC				
	HVAC Equipment / Terminal Device Replacement - See Summary			-	$0
	HVAC Ductwork, Grilles and Air Devices	17,630	gsf	1.35	$23,732
	Duct Insulation and Sound Lining	17,630	gsf	0.23	$3,968
	Controls/EMCS	17,630	gsf	1.47	$26,003
	Air Balancing (TAB)	17,630	gsf	0.63	$11,086
	Commissioning Assistance	17,630	gsf	1.02	$17,940
	GCs, OH & P	15%	on	$82,729	$12,409
	SUBTOTAL HVAC	**17,630**	**BGSF**	**$5.40**	**$95,138**

D40	**FIRE PROTECTION**				
	Fire Protection				
	Misc. Adjustments of Existing Sprinkler System	17,630	gsf	2.00	$35,260
	SUBTOTAL FIRE PROTECTION	**17,630**	**BGSF**	**$2.00**	**$35,260**
D50	**ELECTRICAL**				
	Electrical				
	Demo	1	ls	6,000.00	$6,000
	Distribution	17,630	gsf	0.45	$8,000
	Feeders			-	$0
	Generator & Transfer Equipment (275kVA genset, 3 ATS's)			-	$0
	UPS System - Not described in narrative			-	$0
	Grounding System			-	$0
	Mechanical Equipment and Branch - See Summary			-	$0
	Power Devices and Branch, EMT concealed	17,630	gsf	9.08	$160,000
	Lighting Fixture Cost LED	17,630	gsf	8.88	$156,560
	Lighting and Branch, EMT installation concealed	17,630	gsf	5.49	$96,871
	Lighting Control	17,630	gsf	2.50	$44,032
	Fire Alarm, EMT concealed	17,630	gsf	2.33	$41,097
	LV System Rough-in (Tele/Data)	17,630	gsf	1.11	$19,570
	LV System Install	17,630	gsf	3.89	$68,495
	Cable Tray	17,630	gsf	0.27	$4,681
	Clock System - Not described in narrative			-	$0
	A/V Systems - Allowance	1	ls	25,000	$25,000
	A/V Rough-in	1	ls	20,000	$20,000
	Public Address System - Not described in narrative			-	$0
	EM DAS System			-	$0
	CCTV, Access Control - See Summary			-	$0
	SUBTOTAL ELECTRICAL	**17,630**	**BGSF**	**$36.89**	**$650,306**
E10	**EQUIPMENT**				
	Residential Equipment				
	None			-	$0
	SUBTOTAL EQUIPMENT	**17,630**	**BGSF**	**$0.00**	**$0**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Casework				
	Office Program Fixed Casework & Misc. Millwork - Allowance	17,630	gsf	5.00	$88,150
	Window Treatment				
	New Roller Shades	1	ls	20,000.00	$20,000

	Moveable Furnishings				
	EXCLUDED			-	$0
	SUBTOTAL FURNISHINGS	**17,630**	**BGSF**	**$6.13**	**$108,150**
F10	**SPECIAL CONSTRUCTION**				
	Special Facilities				
	None			-	$0
	SUBTOTAL SPECIAL CONSTRUCTION	**17,630**	**BGSF**	**$0.00**	**$0**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Building Exterior Demolition				
	None				
	Building Interior Demolition				
	Partitions	273	lf	$ 45.00	$12,285
	Cut in New Door Openings into Existing Partitions	21	ea	$ 260.00	$5,460
	Door, Frame & HW	36	ea	$ 520.00	$18,720
	Finishes	17,630	sf	$ 3.00	$52,890
	Mechanical, Electrical - Included above			$ -	$0
	Misc. Demolition				
	Supervision, Hauling & Dump Fees	20%	on	$89,355	$17,871
	Hazardous Components Abatement				
	Allowance	17,630	gsf	$ 1.00	$17,630
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**17,630**	**BGSF**	**$7.08**	**$124,856**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				$0
	SUBTOTAL GENERAL REQUIREMENTS	**17,630**	**BGSF**	**$0.00**	**$0**

Newhouse Replacement	Units	Cost per Unit	TOTAL
Senate			
Member offices	15	$6,000.00	$90,000.00
LA offices	15	$5,000.00	$75,000.00
SA offices	15	$5,000.00	$75,000.00
Waiting	15	$4,000.00	$60,000.00
Reception	3	$4,500.00	$13,500.00
Senate Human Rights Office	1	$6,000.00	$6,000.00
Senate Public Records Assistant office	2	$5,000.00	$10,000.00
Page room	1	$4,000.00	$4,000.00
Page Classroom	1	$3,500.00	$3,500.00
Page supervisor	2	$6,000.00	$12,000.00
Page teachers	2	$5,000.00	$10,000.00
Intern Staff	2	$3,500.00	$7,000.00
Intern workstations	20	$4,200.00	$84,000.00
Briefing Room	3	$3,000.00	$9,000.00
Informal meeting area	1	$4,000.00	$4,000.00
		Subtotal	$463,000.00
Republican Caucus			
Offices	24	$6,000.00	$144,000.00
Assistant/interns workstations	20	$4,500.00	$90,000.00
Radio/communications room	1	$3,000.00	$3,000.00
Conference Room Large	2	$12,000.00	$24,000.00
Conference Room Small	2	$6,000.00	$12,000.00
Informal Meeting Area	1	$4,000.00	$4,000.00
		Subtotal	$277,000.00
Shared			
Lobby	1	$5,000.00	$5,000.00
Waiting	1	$4,000.00	$4,000.00
Security Station	1	$1,200.00	$1,200.00
Security Staff	3	$2,000.00	$6,000.00
Security Control	1	$1,200.00	$1,200.00
Public Meeting Space	1	$6,000.00	$6,000.00
Breakroom	4	$2,000.00	$8,000.00
Copy rooms/supplies	4	$500.00	$2,000.00
Lactation/Quiet Room	2	$1,500.00	$3,000.00
Storage	1	$3,000.00	$3,000.00
		Subtotal	$39,400.00
LSS from Leg Building *- LSS using existing furniture*			
Ethics Office	1		$0.00
LSS Administrative Staff	1		$0.00

	Conference/Break Room	1		$0.00
			Subtotal	$0.00

Production and Design				
	Designer Office	4	$5,000.00	$20,000.00
	Project Manager Office	1	$6,000.00	$6,000.00
	Production & Design Manager Office	2	$5,000.00	$10,000.00
	Copier/Scanner/Roland	1		$0.00
	Production Staff Workstations	1	$4,500.00	$4,500.00
	Wide Format	1		$0.00
	Copier Area	1		$0.00
	Engraving	1		$0.00
	Book Production	1		$0.00
	Polar Cutter & Perfect Binder	1		$0.00
	Heidelberg GTO Letterpress			$0.00
	Misc Storage	1		$0.00
	Warehouse Shipping and Receiving	1		$0.00
	Conference/Kitchen Room	1		$0.00
	Plate Maker			$0.00
	Mail Shop	1		$0.00
	Paper Room	1		$0.00
	Files	1	$3,000.00	$3,000.00
	Graphics and Graphics Workspace			$0.00
	Storage	1	$3,000.00	$3,000.00
			Subtotal	$46,500.00

Page School				
	Classroom	1	$3,500.00	$3,500.00
	Teacher's offices	2	$5,000.00	$10,000.00
			Subtotal	$13,500.00

NEWHOUSE SUBTOTAL FURNITURE COSTS	$839,400.00
Estimated frieght, delivery, and install	$151,092.00
15% contingency	$148,573.80
Total	**$1,139,065.80**

Does not include sales tax

Pritchard Replacement		Units	cost per unit	TOTAL
House				
	Member offices	35	$6,000.00	$210,000.00
	LA offices	35	$5,000.00	$175,000.00
	Intern workstations	15	$4,200.00	$63,000.00

	Large conference rooms	4	$12,000.00	$48,000.00
	Small conference rooms	2	$6,000.00	$12,000.00
	Briefing Room	2	$3,000.00	$6,000.00
	PRO Offices Optional)	3	$5,000.00	$15,000.00
			Subtotal	$529,000.00

Shared				
	Waiting	2	$4,000.00	$8,000.00
	Reception	2	$4,500.00	$9,000.00
	Breakrooms	2	$3,000.00	$6,000.00
	Copy rooms/supplies	2		$0.00
	Informal Meeting Rooms	2	$4,000.00	$8,000.00
	Storage	1	$3,000.00	$3,000.00
			Subtotal	$34,000.00

Public Space				
	Large hearing room	1	$9,500.00	$9,500.00
	Caucus/meeting rooms	2	$6,000.00	$12,000.00
	Security Office	1	$3,000.00	$3,000.00
	Washington Room		$3,500.00	$0.00
	Lactation/Quiet Room	1	$1,500.00	$1,500.00
			Subtotal	$26,000.00

Code Reviser - *CRO using existing furniture*				
	Private offices	18		
	RCW Director/Attorney	1		
	RCW Attorney	8		
	RCW Checkers	4		
	WAC Register Editors	2		
	Proffessional Staff	3		
	Shared offices	5		
	RCW Proofreaders	2		
	OTS Proofreaders	1		
	Register Proofreaders	1		
	Reception Waiting Area	1		
	Workstations	19		
	Reception Workstations	3		
	RCW Editorial Assistants	6		
	WAC/Register Editiorial Assistants	4		
	OTS Editor	1		
	OTS Editorial Assistants	2		
	Session Support (WAC and Register)	1		
	Session Support (RCW)	1		
	Session Attorney	1		
	Print shop	1		
	Library	1		

	File storage	1		
	Current Bill Draft Storage	1		
	4 Year Bill Storage	1		
	Register and Archived WAC Storage	1		
	Copy rooms	2		
	Breakroom	1		
	Conference	1		
	Storage			
			Subtotal	$0.00

LSS Photo - *LSS using existing furniture*				
	Studio	1		
	Workstations	6		
			Subtotal	$0.00

Leg Tech (LSC)				
	Reception	1	$4,000.00	$4,000.00
	Help desk workstations	19	$4,200.00	$79,800.00
	Private offices	3	$6,000.00	$18,000.00
	Equipment staging	1	$2,000.00	$2,000.00
	Equipment storage	1	$3,000.00	$3,000.00
	Copy Room	1		$0.00
	Break Room	1	$2,000.00	$2,000.00
	AV equipment storage and staging	1	$3,500.00	$3,500.00
	Conference room	1	$9,000.00	$9,000.00
	Training room	1	$3,500.00	$3,500.00
	Kitchen			$0.00
	Quiet Room			$0.00
	Empty Offices (not used)			$0.00
			Subtotal	$124,800.00

Public Space				
	Cafeteria	1	$11,000.00	$11,000.00
	Kitchen	1		$0.00
	Café		$5,000.00	$0.00
			Subtotal	$11,000.00

Third House				
	Third House	1	$1,500.00	$1,500.00
			Subtotal	$1,500.00

PRITCHARD SUBTOTAL FURNITURE COSTS	$726,300.00
Estimated frieght, delivery, and install	$130,734.00
15% contingency	$128,555.10
Total	**$985,589.10**

Does not include sales tax

O'Brien Offices		Units	cost per unit	TOTAL
O'Brien Offices				
	Member Offices	29	$6,000.00	$174,000.00
	LA Offices	29	$5,000.00	$145,000.00
	LA Workstations	4	$4,500.00	$18,000.00
	Large Conference Room	1	$12,000.00	$12,000.00
			Subtotal	$349,000.00

O'BRIEN SUBTOTAL FURNITURE COSTS	$349,000.00
Estimated frieght, delivery, and install	$62,820.00
15% contingency	$61,773.00
Total	**$473,593.00**

Does not include sales tax

Newhouse Replacement		Units	Cost per Unit	TOTAL
Senate				
	Member offices	15		$0.00
	LA offices	15		$0.00
	SA offices	15		$0.00
	Waiting	15		$0.00
	Reception	3		$0.00
	Senate Human Rights Office	1		$0.00
	Senate Public Records Assistant office	2		$0.00
	Page room	1	$20,000.00	$20,000.00
	Page Classroom	1	$20,000.00	$20,000.00
	Page supervisor	2		$0.00
	Page teachers	2		$0.00
	Intern Staff	2		$0.00
	Intern workstations	20		$0.00
	Briefing Room	3	$6,000.00	$18,000.00
	Informal meeting area	1	$6,000.00	$6,000.00
			Subtotal	$64,000.00
Republican Caucus				
	Offices	24		$0.00
	Assistant/interns workstations	20		$0.00
	Radio/communications room	1		$0.00
	Conference Room Large	2	$6,000.00	$12,000.00
	Conference Room Small	2	$6,000.00	$12,000.00
	Informal Meeting Area	1	$6,000.00	$6,000.00
			Subtotal	$30,000.00
Shared				
	Lobby	1	$35,000.00	$35,000.00
	Waiting	1		$0.00
	Security Station	1	$35,000.00	$35,000.00
	Security Staff	3	$10,000.00	$30,000.00
	Security Control	1	$20,000.00	$20,000.00
	Public Meeting Space	1	$6,000.00	$6,000.00
	Breakroom	4		$0.00
	Copy rooms/supplies	4		$0.00
	Lactation/Quiet Room	2		$0.00
	Storage	1		$0.00
			Subtotal	$126,000.00
LSS from Leg Building				
	Ethics Office	1		$0.00
	LSS Administrative Staff	1		$0.00

	Conference/Break Room	1	$6,000.00	$6,000.00
			Subtotal	$6,000.00

Production and Design				
	Designer Office	4		$0.00
	Project Manager Office	1		$0.00
	Production & Design Manager Office	2		$0.00
	Copier/Scanner/Roland	1		$0.00
	Production Staff Workstations	1		$0.00
	Wide Format	1		$0.00
	Copier Area	1		$0.00
	Engraving	1		$0.00
	Book Production	1		$0.00
	Polar Cutter & Perfect Binder	1		$0.00
	Heidelberg GTO Letterpress			$0.00
	Misc Storage	1		$0.00
	Warehouse Shipping and Receiving	1		$0.00
	Conference/Kitchen Room	1	$6,000.00	$6,000.00
	Plate Maker			$0.00
	Mail Shop	1		$0.00
	Paper Room	1		$0.00
	Files	1		$0.00
	Graphics and Graphics Workspace			$0.00
	Storage	1		$0.00
			Subtotal	$6,000.00

Page School				
	Classroom	1	$35,000.00	$35,000.00
	Teacher's offices	2		$0.00
			Subtotal	$35,000.00

NEWHOUSE SUBTOTAL FURNITURE COSTS	$267,000.00
Estimated frieght, delivery, and install	$48,060.00
15% contingency	$47,259.00
Total	**$362,319.00**

Does not include sales tax

Pritchard Replacement		Units	cost per unit	TOTAL
House				
	Member offices	35		$0.00
	LA offices	35		$0.00
	Intern workstations	15		$0.00

	Large conference rooms	4	$6,000.00	$24,000.00
	Small conference rooms	2	$6,000.00	$12,000.00
	Briefing Room	2	$6,000.00	$12,000.00
	PRO Offices Optional)	3		$0.00
			Subtotal	$48,000.00

Shared				
	Waiting	2		$0.00
	Reception	2	$35,000.00	$70,000.00
	Breakrooms	2		$0.00
	Copy rooms/supplies	2		$0.00
	Informal Meeting Rooms	2	$6,000.00	$12,000.00
	Storage	1		$0.00
			Subtotal	$82,000.00

Public Space				
	Large hearing room	1	$35,000.00	$35,000.00
	Caucus/meeting rooms	2	$35,000.00	$70,000.00
	Security Office	1	$20,000.00	$20,000.00
	Washington Room		$35,000.00	$0.00
	Lactation/Quiet Room	1		$0.00
			Subtotal	$125,000.00

Code Reviser				
	Private offices	18		
	RCW Director/Attorney	1		
	RCW Attorney	8		
	RCW Checkers	4		
	WAC Register Editors	2		
	Proffessional Staff	3		
	Shared offices	5		
	RCW Proofreaders	2		
	OTS Proofreaders	1		
	Register Proofreaders	1		
	Reception Waiting Area	1		
	Workstations	19		
	Reception Workstations	3		
	RCW Editorial Assistants	6		
	WAC/Register Editiorial Assistants	4		
	OTS Editor	1		
	OTS Editorial Assistants	2		
	Session Support (WAC and Register)	1		
	Session Support (RCW)	1		
	Session Attorney	1		
	Print shop	1		
	Library	1		

	File storage	1		
	Current Bill Draft Storage	1		
	4 Year Bill Storage	1		
	Register and Archived WAC Storage	1		
	Copy rooms	2		
	Breakroom	1		
	Conference	1	$6,000	$6,000
	Storage			
			Subtotal	$6,000.00

LSS Photo				
	Studio	1		
	Workstations	6		
			Subtotal	$0.00

Leg Tech (LSC)				
	Reception	1		$0.00
	Help desk workstations	19		$0.00
	Private offices	3		$0.00
	Equipment staging	1		$0.00
	Equipment storage	1		$0.00
	Copy Room	1		$0.00
	Break Room	1		$0.00
	AV equipment storage and staging	1		$0.00
	Conference room	1	$6,000.00	$6,000.00
	Training room	1	$35,000.00	$35,000.00
	Kitchen			$0.00
	Quiet Room			$0.00
	Empty Offices (not used)			$0.00
			Subtotal	$41,000.00

Public Space				
	Cafeteria	1		$0.00
	Kitchen	1		$0.00
	Café			$0.00
			Subtotal	$0.00

Third House				
	Third House	1	$6,000.00	$6,000.00
			Subtotal	$6,000.00

PRITCHARD SUBTOTAL FURNITURE COSTS	$308,000.00
Estimated frieght, delivery, and install	$55,440.00
15% contingency	$54,516.00
Total	**$417,956.00**

Does not include sales tax

O'Brien Offices		Units	cost per unit	TOTAL
O'Brien Offices				
	Member Offices	29		$0.00
	LA Offices	29		$0.00
	LA Workstations	4		$0.00
	Large Conference Room	1	$35,000.00	$35,000.00
			Subtotal	$35,000.00

O'BRIEN SUBTOTAL FURNITURE COSTS	$35,000.00
Estimated frieght, delivery, and install	$6,300.00
15% contingency	$6,195.00
Total	**$47,495.00**

Does not include sales tax

C-100(2020)

Updated June 2020

Quick Start Guide

GENERAL INFORMATION

1) The C-100(2020) tool was created to align with the estimating application in the Capital Budgeting System (CBS). The intended use is to enable project managers to communicate their project cost estimates to budget officers in the standard format required for capital project budget requests/submittals to OFM.

2) This workbook is protected so that the worksheets within it cannot be moved or deleted in the usual manner. This protection is necessary to ensure that the cost estimate details and formulas align with the estimating application in the Capital Budgeting System.

3) The estimating format to develop the maximum allowable construction cost (MACC) is presented in Uniformat II.
4) Form-calculated costs such as A/E Basic Design Service fees and Agency Project Management costs are dependent on other estimated project costs such as Acquisition, MACC, Equipment, etc.
5) Project estimates generated with this tool are not sufficient for budget request submittals to OFM. Use the Capital Budgeting System to submit capital project budget requests.
6) Contact your assigned OFM Capital Budget Analyst with questions.
OFM Capital Budget Analyst

INSTRUCTIONS

1) Only green cells are available for data entry.
2) Fill in all known cells in the 'Summary' tab prior to moving on to the cost entry tabs A-G.
3) It is recommended, but not required, to fill out cost entry tabs in the following order:
A. Acquisition, C. Construction Contracts, D. Equipment, G. Other Costs, B. Consultant Services, F. Project Management, then E. Artwork.

4) If additional rows are inserted to capture additional project costs, a description must be provided in the Notes column or within Tab H. Additional Notes. Be particularly detailed for additional costs estimated for contingencies and project management.

FORM-CALCULATED COSTS (FEE CALCULATIONS)

1) A/E Basic Design Services: AE Fee % (x) (MACC + Contingency)
2) Design Services Contingency: Contingency % (x) Consultant Services Subtotal
3) Construction Contingency: Contingency % (x) MACC
4) Artwork: 0.5% (x) Total Project Cost
5) Agency Project Management (Greater than $1million): (AE Fee % - 4%) (x) (Acquisition Total + Consultant Services Total + MACC + Construction Contingency + Other Costs)

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	Senate House and Legislative Agencies
Project Name	Temporary Facilities/ Global LCM Costs
OFM Project Number	

Contact Information	
Name	
Phone Number	
Email	

Statistics			
Gross Square Feet	18,000	MACC per Square Foot	$208
Usable Square Feet		Escalated MACC per Square Foot	$222
Space Efficiency	0.0%	A/E Fee Class	B
Construction Type	Office buildings	A/E Fee Percentage	9.04%
Remodel	No	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	No	Art Requirement Applies	No
Inflation Rate	2.38%	Higher Ed Institution	No
Sales Tax Rate %	9.40%	Location Used for Tax Rate	Olympia
Contingency Rate	5%		
Base Month	October-20	OFM UFI# (from FPMT, if available)	
Project Administered By	DES		

Schedule			
Predesign Start	August-18	Predesign End	November-20
Design Start	December-21	Design End	April-22
Construction Start	May-23	Construction End	July-23
Construction Duration	2 Months		

Green cells must be filled in by user

Project Cost Estimate			
Total Project	**$5,374,071**	Total Project Escalated	**$5,708,580**
		Rounded Escalated Total	**$5,709,000**

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	Senate House and Legislative Agencies
Project Name	Temporary Facilities/ Global LCM Costs
OFM Project Number	

Cost Estimate Summary

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

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$273,624		
Extra Services	$67,000		
Other Services	$131,323		
Design Services Contingency	$23,597		
Consultant Services Subtotal	**$495,545**	**Consultant Services Subtotal Escalated**	**$516,402**

Construction			
Construction Contingencies	$187,464	Construction Contingencies Escalated	$199,593
Maximum Allowable Construction Cost (MACC)	$3,749,280	Maximum Allowable Construction Cost (MACC) Escalated	$3,991,103
Sales Tax	$370,054	Sales Tax Escalated	$393,926
Construction Subtotal	**$4,306,798**	**Construction Subtotal Escalated**	**$4,584,622**

Equipment			
Equipment	$0		
Sales Tax	$0		
Non-Taxable Items	$0		
Equipment Subtotal	**$0**	**Equipment Subtotal Escalated**	**$0**

Artwork			
Artwork Subtotal	**$0**	**Artwork Subtotal Escalated**	**$0**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$17,500**	**Project Administation Subtotal Escalated**	**$18,633**

Other Costs			
Other Costs Subtotal	**$554,228**	**Other Costs Subtotal Escalated**	**$588,923**

Project Cost Estimate			
Total Project	**$5,374,071**	Total Project Escalated	**$5,708,580**
		Rounded Escalated Total	**$5,709,000**

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Consultant Services					
1) Pre-Schematic Design Services					
Programming/Site Analysis					
Environmental Analysis					
Predesign Study					
Storm Drain Scope					
Goetech					
Site Survey					
Insert Row Here					
Sub TOTAL	**$0**		**1.0278**	**$0**	Escalated to Design Start
2) Construction Documents					
A/E Basic Design Services	$245,558				69% of A/E Basic Services
Other					
Adjusted Basic Services	$28,066				Adjusted Basic Serv. Contract for GCCM
Insert Row Here					
Sub TOTAL	**$273,624**		**1.0318**	**$282,326**	Escalated to Mid-Design
3) Extra Services					
Civil Design (Above Basic Svcs)	$20,000				
Geotechnical Investigation					
Commissioning					
Site Survey	$10,000				
Testing					
LEED Services					
Voice/Data Consultant					
Value Engineering	by GCCM				
Constructability Review	by GCCM				
Environmental Mitigation (EIS)					
Landscape Consultant					
Security and Access Consultant					
Lighting Consultant					
Document Reproduction					
Acoustical Consultant					
LEED Documentation					
Advertising	$2,000				
Hazardous Materials Consultant					
VE Design Team Participation					In GCCM interaction
Constructibility Review					In GCCM interaction
Café Consultant					
Audio Visual and CATV Consultant					
Stormwater Report (SWPP, NOI), & Permitting					
Energy Conservation Report (ELCCA)					
Interior Design Consultant	$20,000				Coordination of existing furniture
Graphics and Signage Consultant					
Art Work Design Coordination					
SEPA Services					
Energy Modeling for Code					

Executive Order 13-03 (LCCA)				
NPDES Design Services				
Arborist Survey and Tree Protection Plan				
Fire and Lifesafety Consultant				
Security Consultant				
GCCM Interaction	$10,000			includes VE, Constructibility Review, Cost reconcilitation, & OAC preconstruction meetings
Bid Package Coordination				Early bid packageing
Models and Animations				
Façade Material Mock-ups				
Environmental Mitigation Services (EIS) - Checklist Only				
Outreach (neighborhood, CCDAC, SBC)				
Partnering/Alignment				
Elevator Consultant				
Emergency Responder Radio				
Photo Voltaic Design (NZE)				
Building Analysis and Modeling (NZE)				
Conformed Set				
Cx A/E Participation				
Historical Resources Documentation				
Site Electrical and Data	$5,000			
Asbestos Abatement				
Envelope Consultant				
Hardware Consultant				
Traffic and Parking Studies				
Art Restoration/Relocation				
Archeologist				
Tenent relocation and space planning				
Life Cycle Cost Assessment Tool				
Insert Row Here				
Sub TOTAL	**$67,000**	**1.0318**	**$69,131**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$110,323			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Cx and Training				
Reimbursibles /Reprographics	$8,000			
Testing and Inspections				
Record Drawings				
Building Envelope CFR & Air/Water Testing				
Enhance CA	$13,000			Includes adjustment for basic services GCCM
Geotechnical CA Services				
Arborist Inspection and Monitoring				
Artwork installation coordination				
Insert Row Here				
Sub TOTAL	**$131,323**	**1.0647**	**$139,820**	Escalated to Mid-Const.

5) Design Services Contingency				
Design Services Contingency	$23,597			
Other				Additional 5% Contingency for complex site scope
Insert Row Here				
Sub TOTAL	**$23,597**	**1.0647**	**$25,125**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$495,545**		**$516,402**	

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Cost Estimate Details

Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Construction Contracts					
1) Site Work					
G10 - Site Preparation					
G20 - Site Improvements	$60,000				
G30 - Site Mechanical Utilities	$75,000				
G40 - Site Electrical Utilities	$200,000				
G60 - Other Site Construction	$25,000				
Insert Row Here					
Sub TOTAL	**$360,000**		**1.0626**	**$382,536**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0626**	**$0**	
3) Facility Construction					
A10 - Foundations					
A20 - Basement Construction					
B10 - Superstructure					
B20 - Exterior Closure					
B30 - Roofing					
C10 - Interior Construction					
C20 - Stairs					
C30 - Interior Finishes					
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems					
D40 - Fire Protection Systems					
D50 - Electrical Systems					
F10 - Special Construction	$2,600,000				
F20 - Selective Demolition					
General Conditions	$100,000				
Estimating Contingency	$444,000				Fifteen Percent typical to account for predesign detail level.
Contractor Fee	$245,280				
Sub TOTAL	**$3,389,280**		**1.0647**	**$3,608,567**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$3,749,280**			**$3,991,103**	

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7) Construction Contingency				
Allowance for Change Orders	$187,464			
Other				
Additional Site Geotechnical Unknowns				
Insert Row Here				
Sub TOTAL	**$187,464**	**1.0647**	**$199,593**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0647**	**$0**	
Sales Tax				
Sub TOTAL	**$370,054**		**$393,926**	
CONSTRUCTION CONTRACTS TOTAL	**$4,306,798**		**$4,584,622**	

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Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment					
E20 - Furnishings					
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0647**	**$0**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0647**	**$0**	
Sales Tax					
Sub TOTAL	**$0**			**$0**	
EQUIPMENT TOTAL	**$0**			**$0**	

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Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Agency Project Management	$0				
Additional Services					
Finance Recovery Fee	$17,500				Place Holder
Alternatively Funded PM Fee					TBD
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$17,500**		**1.0647**	**$18,633**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Building Permit Fees	$30,000				
Permit Technology Fee	$3,000				
Land Use & Planning Application	$10,000				City Permitting Fees - State not subject to City Land Use Codes
City - Engineering/General Facilities Fees	$10,000				City Permitting Fees
City - MEPF Plan Review Fees	$2,000				City Permitting Fees
Furniture Rental					
Off-site Furniture Storage					place holder
Moving Costs					
B&G Trades Support	$8,500				Place Holder
B&G In Plant	$2,500				Place Holder
Site Rep					
Applicable WSST on Consultant Services (if Design-Build procurement is favored)					If Design-Build procurement is fa-vored add 9.4% to total consultant costs
Historic and Archeological Mitigation	$488,228				
Insert Row Here					
OTHER COSTS TOTAL	**$554,228**		**1.0626**	**$588,923**	

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C-100(2020)
Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here

C-100(2020)

Updated June 2020

Quick Start Guide

GENERAL INFORMATION

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2) This workbook is protected so that the worksheets within it cannot be moved or deleted in the usual manner. This protection is necessary to ensure that the cost estimate details and formulas align with the estimating application in the Capital Budgeting System.

3) The estimating format to develop the maximum allowable construction cost (MACC) is presented in Uniformat II.

4) Form-calculated costs such as A/E Basic Design Service fees and Agency Project Management costs are dependent on other estimated project costs such as Acquisition, MACC, Equipment, etc.

5) Project estimates generated with this tool are not sufficient for budget request submittals to OFM. Use the Capital Budgeting System to submit capital project budget requests.

6) Contact your assigned OFM Capital Budget Analyst with questions.

OFM Capital Budget Analyst

INSTRUCTIONS

1) Only green cells are available for data entry.

2) Fill in all known cells in the 'Summary' tab prior to moving on to the cost entry tabs A-G.

3) It is recommended, but not required, to fill out cost entry tabs in the following order:

A. Acquisition, C. Construction Contracts, D. Equipment, G. Other Costs, B. Consultant Services, F. Project Management, then E. Artwork.

4) If additional rows are inserted to capture additional project costs, a description must be provided in the Notes column or within Tab H. Additional Notes. Be particularly detailed for additional costs estimated for contingencies and project management.

FORM-CALCULATED COSTS (FEE CALCULATIONS)

1) A/E Basic Design Services: AE Fee % (x) (MACC + Contingency)

2) Design Services Contingency: Contingency % (x) Consultant Services Subtotal

3) Construction Contingency: Contingency % (x) MACC

4) Artwork: 0.5% (x) Total Project Cost

5) Agency Project Management (Greater than $1million): (AE Fee % - 4%) (x) (Acquisition Total + Consultant Services Total + MACC + Construction Contingency + Other Costs)

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	Senate	
Project Name	Newhouse Replacement & LCM Global Costs	
OFM Project Number		

Contact Information

Name	
Phone Number	
Email	

Statistics

Gross Square Feet	64,765	MACC per Square Foot	$641
Usable Square Feet		Escalated MACC per Square Foot	$692
Space Efficiency	0.0%	A/E Fee Class	B
Construction Type	Office buildings	A/E Fee Percentage	6.35%
Remodel	No	Projected Life of Asset (Years)	50

Additional Project Details

Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	2.38%	Higher Ed Institution	No
Sales Tax Rate %	9.40%	Location Used for Tax Rate	Olympia
Contingency Rate	5%		
Base Month	October-20	OFM UFI# (from FPMT, if available)	
Project Administered By	DES		

Schedule

Predesign Start	August-18	Predesign End	November-20
Design Start	May-21	Design End	January-23
Construction Start	February-23	Construction End	April-25
Construction Duration	26 Months		

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Project Cost Estimate

Total Project	**$69,350,562**	Total Project Escalated	**$74,560,072**
		Rounded Escalated Total	**$74,560,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	Senate	
Project Name	Newhouse Replacement & LCM Global Costs	
OFM Project Number		

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$534,330**	**Acquisition Subtotal Escalated**	**$534,330**

Consultant Services			
Predesign Services	$254,683		
A/E Basic Design Services	$2,164,068		
Extra Services	$2,606,900		
Other Services	$1,787,017		
Design Services Contingency	$340,633		
Consultant Services Subtotal	**$7,153,301**	**Consultant Services Subtotal Escalated**	**$7,496,639**

Construction			
GC/CM Risk Contingency	$1,673,526		
GC/CM or D/B Costs	$7,650,199		
Construction Contingencies	$2,076,335	Construction Contingencies Escalated	$2,250,125
Maximum Allowable Construction Cost (MACC)	$41,526,704	Maximum Allowable Construction Cost (MACC) Escalated	$44,799,131
Sales Tax	$4,975,116	Sales Tax Escalated	$5,372,418
Construction Subtotal	**$57,901,880**	**Construction Subtotal Escalated**	**$62,525,796**

Equipment			
Equipment	$1,501,384		
Sales Tax	$141,130		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,642,514**	**Equipment Subtotal Escalated**	**$1,779,993**

Artwork			
Artwork Subtotal	**$370,946**	**Artwork Subtotal Escalated**	**$370,946**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$222,000**	**Project Administation Subtotal Escalated**	**$240,582**

Other Costs			
Other Costs Subtotal	**$1,525,590**	**Other Costs Subtotal Escalated**	**$1,611,786**

Project Cost Estimate			
Total Project	**$69,350,562**	Total Project Escalated	**$74,560,072**
		Rounded Escalated Total	**$74,560,000**

Cost Estimate Details

Acquisition Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Purchase/Lease					
Appraisal and Closing					
Right of Way					
Demolition					
Pre-Site Development					
Right of Way	$534,330				LCM Global Cost
Insert Row Here					
ACQUISITION TOTAL	**$534,330**		**NA**	**$534,330**	

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Cost Estimate Details

Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Consultant Services					
1) Pre-Schematic Design Services					
Programming/Site Analysis					
Environmental Analysis	$4,800				
Predesign Study	$209,718				
Storm Drain Scope	$710				
Geotech	$22,665				
Site Survey	$16,790				
Insert Row Here					
Sub TOTAL	**$254,683**		**1.0138**	**$258,198**	Escalated to Design Start
2) Construction Documents					
A/E Basic Design Services	$1,910,467				69% of A/E Basic Services
Other					
Adjusted Basic Services	$253,601				Adjusted Basic Serv. Contract for GCCM
Insert Row Here					
Sub TOTAL	**$2,164,068**		**1.0339**	**$2,237,431**	Escalated to Mid-Design
3) Extra Services					
Civil Design (Above Basic Svcs)	$505,000				
Geotechnical Investigation	$41,000				
Commissioning	$46,000				
Site Survey	$22,000				
Testing					
LEED Services					
Voice/Data Consultant	$48,000				
Value Engineering	by GCCM				
Constructability Review	by GCCM				
Environmental Mitigation (EIS)					
Landscape Consultant	$234,000				
Security and Access Consultant	$45,000				
Lighting Consultant	$59,000				
Document Reproduction	$35,000				
Acoustical Consultant	$38,000				
LEED Documentation	$166,000				
Advertising	$2,000				
Hazardous Materials Consultant	$57,000				
VE Design Team Participation					In GCCM interaction
Constructibility Review					In GCCM interaction
Café Consultant	$0				
Audio Visual and CATV Consultant	$60,000				
Stormwater Report (SWPP, NOI), & Permitting	$14,300				
Energy Conservation Report (ELCCA)	$39,800				
Interior Design Consultant	$89,000				
Graphics and Signage Consultant	$38,000				
Art Work Design Coordination	$12,000				
SEPA Services	$20,000				
Energy Modeling for Code	$38,500				
Executive Order 13-03 (LCCT)	$46,300				

NPDES Design Services	$14,200			
Arborist Survey and Tree Protection Plan	$27,000			LCM Phase I Other Costs
Fire and Lifesafety Consultant	$14,200			
Life Cycle Cost Assessment Tool	$16,200			
Security Engineering	$46,500			
GCCM Interaction	$85,000			includes VE, Constructibility Review, Cost reconcilitation, & OAC preconstruction meetings
Bid Package Coordination	$40,000			Early bid packageing
Models and Animations	$45,000			
Façade Material Mock-ups	$20,000			
Environmental Mitigation Services (EIS) - Checklist Only	$20,000			
Outreach (neighborhood, CCDAC, SCC)	$32,000			LCM Phase I Other Costs
Partnering/Alignment	$26,000			
Elevator Consultant	$10,000			
Emergency Responder Radio	$9,300			
Photo Voltaic Design (NZE)	$22,500			
Building Analysis and Modeling (NZE)	$93,500			
Conformed Set	$30,000			
Cx A/E Participation	$67,000			
Historical Resources Documentation	$30,000			
Site Electrical and Data	$42,000			
Asbestos Abatement	$35,100			
Envelope Consultant	$68,000			
Hardware Consultant	$32,000			
Traffic and Parking Studies	$20,500			
Tenent Relocation Space Veirfication/Planning	$80,000			
Archeologist	$25,000			
Insert Row Here				
Sub TOTAL	**$2,606,900**	**1.0339**	**$2,695,274**	Escalated to Mid-Design

4) Other Services

Bid/Construction/Closeout	$858,326			31% of A/E Basic Services
HVAC Balancing	$60,000			
Staffing				
Cx and Training	$115,000			
Reimbursibles /Reprographics	$8,000			
Testing and Inspections	$120,000			
Record Drawings	$40,000			
Building Envelope CFR & Air/Water Testing	$155,000			
Enhance CA	$331,991			Allowance for Enhanced CA, includes adjustment for basic services GCCM
Geotechnical CA Services	$60,000			
Arborist Inspection and Monitoring	$32,700			LCM Phase I Other Costs
Artwork installation coordination	$6,000			
Insert Row Here				
Sub TOTAL	**$1,787,017**	**1.0837**	**$1,936,591**	Escalated to Mid-Const.

5) Design Services Contingency

Design Services Contingency	$340,633			
Other				
Insert Row Here				
Sub TOTAL	**$340,633**	**1.0837**	**$369,145**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$7,153,301**		**$7,496,639**	

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Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$1,719,808				
G20 - Site Improvements	$913,177				
G30 - Site Mechanical Utilities	$304,700				
G40 - Site Electrical Utilities	$702,000				
G60 - Other Site Construction					
Estimating Contingency	$545,953				
Columbia Street Sitework	$394,427				
Sitework East of Columbia Street	$2,896,376				
Insert Row Here					
Sub TOTAL	**$7,476,440**		**1.0565**	**$7,898,859**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0565**	**$0**	
3) Facility Construction					
A10 - Foundations	$2,258,515				
A20 - Basement Construction	$0				
B10 - Superstructure	$4,126,586				
B20 - Exterior Closure	$5,797,574				
B30 - Roofing	$430,927				
C10 - Interior Construction	$3,008,585				
C20 - Stairs	$400,000				
C30 - Interior Finishes	$1,981,400				
D10 - Conveying	$460,000				
D20 - Plumbing Systems	$1,014,464				
D30 - HVAC Systems	$4,264,737				
D40 - Fire Protection Systems	$356,208				
D50 - Electrical Systems	$4,394,361				
F10 - Special Construction	$100,000				
F20 - Selective Demolition					
General Conditions	see below				
CFCI Equipment	$174,925				
CFCI Casework & Fixed Furnishings	$438,001				
	$0				
Temporary Office Space TI	$0				
Press House TI in Leg. Building	$223,040				
Photovoltaic Arrays	$240,000				
Etimating Contingency	$4,380,942				Fifteen Percent typical to account for predesign detail level.
Sub TOTAL	**$34,050,264**		**1.0837**	**$36,900,272**	
4) Maximum Allowable Construction Cost					

MACC Sub TOTAL	**$41,526,704**		**$44,799,131**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$1,245,801			
Sub Bonds	$427,725			
Insert Row Here				
Sub TOTAL	**$1,673,526**	**1.0837**	**$1,813,601**	
6) GCCM or Design Build Costs				
GCCM Fee	$2,864,175			
Bid General Conditions	$4,536,024			
GCCM Preconstruction Services	$250,000			
Other				
Insert Row Here				
Sub TOTAL	**$7,650,199**	**1.0837**	**$8,290,521**	
7) Construction Contingency				
Allowance for Change Orders	$2,076,335			
Other				
Additional Site Geotechnical Unknowns				
Insert Row Here				
Sub TOTAL	**$2,076,335**	**1.0837**	**$2,250,125**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0837**	**$0**	
Sales Tax				
Sub TOTAL	**$4,975,116**		**$5,372,418**	
CONSTRUCTION CONTRACTS TOTAL	**$57,901,880**		**$62,525,796**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
E10 - Equipment	$362,319				
E20 - Furnishings	$1,139,065				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,501,384**		**1.0837**	**$1,627,050**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0837**	**$0**	
Sales Tax					
Sub TOTAL	**$141,130**			**$152,943**	
EQUIPMENT TOTAL	**$1,642,514**			**$1,779,993**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$370,946				0.5% of total project cost for new construction
Higher Ed Artwork	$0				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$370,946**		**NA**	**$370,946**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services					
Finance Recovery Fee	$222,000				Place Holder
Alternatively Funded PM Fee					TBD
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$222,000**		**1.0837**	**$240,582**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation	$50,000				
Building Permit Fees	$429,128				
Permit Technology Fee	$22,692				
Land Use & Planning Application	$47,745				
City - Engineering/General Facilities Fees	$105,000				
City - MEPF Plan Review Fees	$9,000				
Furniture Rental	$184,437				
Off-site Funiture Storage	$98,925				
Moving Costs	$45,450				
B&G Trades Support	$108,000				Place holder
B&G In Plant	$28,000				Place holder
Site Rep					
Applicable WSST on Consultant Services (if Design-Build procurement is favored)	$0				Not applicable as GC/CM project delivery selected
Traffic Impact Fee	$367,213				
Roundabout	$0				Traffic study to confirm if needed in design phase
Street Vacation Costs	$30,000				LCM Phase I Other Costs for
Insert Row Here					
OTHER COSTS TOTAL	**$1,525,590**		**1.0565**	**$1,611,786**	

Green cells must be filled in by user

C-100(2020)
Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here

C-100(2020)

Updated June 2020

Quick Start Guide

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OFM Capital Budget Analyst

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FORM-CALCULATED COSTS (FEE CALCULATIONS)

1) A/E Basic Design Services: AE Fee % (x) (MACC + Contingency)
2) Design Services Contingency: Contingency % (x) Consultant Services Subtotal
3) Construction Contingency: Contingency % (x) MACC
4) Artwork: 0.5% (x) Total Project Cost
5) Agency Project Management (Greater than $1million): (AE Fee % - 4%) (x) (Acquisition Total + Consultant Services Total + MACC + Construction Contingency + Other Costs)

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	House and Legislative Agencies
Project Name	LCM Pritchard Replacement
OFM Project Number	

Contact Information

Name	
Phone Number	
Email	

Statistics

Gross Square Feet	72,342	MACC per Square Foot	$693
Usable Square Feet		Escalated MACC per Square Foot	$795
Space Efficiency	0.0%	A/E Fee Class	B
Construction Type	Office buildings	A/E Fee Percentage	6.10%
Remodel	No	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	2.38%	Higher Ed Institution	No
Sales Tax Rate %	9.40%	Location Used for Tax Rate	Olympia
Contingency Rate	5%		
Base Month	October-20	OFM UFI# (from FPMT, if available)	
Project Administered By	DES		

Schedule

Predesign Start	August-18	Predesign End	November-20
Design Start	February-23	Design End	October-24
Construction Start	October-25	Construction End	August-27
Construction Duration	22 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$81,249,405**	Total Project Escalated	**$92,738,910**
		Rounded Escalated Total	**$92,739,000**

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	House and Legislative Agencies	
Project Name	LCM Pritchard Replacement	
OFM Project Number		

Cost Estimate Summary

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

Consultant Services			
Predesign Services	$239,753		
A/E Basic Design Services	$2,500,313		
Extra Services	$2,749,900		
Other Services	$1,916,493		
Design Services Contingency	$370,323		
Consultant Services Subtotal	**$7,776,781**	**Consultant Services Subtotal Escalated**	**$8,538,347**

Construction			
GC/CM Risk Contingency	$1,861,777		
GC/CM or D/B Costs	$8,227,912		
Construction Contingencies	$3,508,043	Construction Contingencies Escalated	$4,032,145
Maximum Allowable Construction Cost (MACC)	$50,160,851	Maximum Allowable Construction Cost (MACC) Escalated	$57,523,562
Sales Tax	$5,993,307	Sales Tax Escalated	$6,876,363
Construction Subtotal	**$69,751,889**	**Construction Subtotal Escalated**	**$80,029,160**

Equipment			
Equipment	$1,403,545		
Sales Tax	$131,933		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,535,478**	**Equipment Subtotal Escalated**	**$1,764,880**

Artwork			
Artwork Subtotal	**$461,388**	**Artwork Subtotal Escalated**	**$461,388**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$243,000**	**Project Administation Subtotal Escalated**	**$279,305**

Other Costs			
Other Costs Subtotal	**$1,480,869**	**Other Costs Subtotal Escalated**	**$1,665,830**

Project Cost Estimate			
Total Project	**$81,249,405**	Total Project Escalated	**$92,738,910**
		Rounded Escalated Total	**$92,739,000**

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services					
Programming/Site Analysis					
Environmental Analysis	$4,800				
Predesign Study	$209,718				
Storm Drain Scope	$710				
Goetech	$7,735				
Site Survey	$16,790				
Insert Row Here					
Sub TOTAL	**$239,753**		**1.0565**	**$253,300**	Escalated to Design Start
2) Construction Documents					
A/E Basic Design Services	$2,258,924				69% of A/E Basic Services
Other					
Adjusted Basic Services	$241,389				Adjusted Basic Serv. Contract for GCCM
Insert Row Here					
Sub TOTAL	**$2,500,313**		**1.0774**	**$2,693,837**	Escalated to Mid-Design
3) Extra Services					
Civil Design (Above Basic Svcs)	$429,000				
Geotechnical Investigation	$53,000				
Commissioning	$49,000				
Site Survey	$10,000				
Testing					
LEED Services					
Voice/Data Consultant	$49,500				
Value Engineering	by GCCM				
Constructability Review	by GCCM				
Environmental Mitigation (EIS)					
Landscape Consultant	$198,000				
Security and Access Consultant	$48,000				
Lighting Consultant	$60,000				
Document Reproduction	$35,000				
Acoustical Consultant	$47,000				
LEED Documentation	$180,200				
Advertising	$2,000				
Hazardous Materials Consultant	$42,000				
VE Design Team Participation					In GCCM interaction
Constructibility Review					In GCCM interaction
Café Consultant	$55,000				
Audio Visual and CATV Consultant	$65,400				
Stormwater Report (SWPP, NOI), & Permitting	$12,000				
Energy Conservation Report (ELCCA)	$42,000				
Interior Design Consultant	$95,000				
Graphics and Signage Consultant	$38,000				
Art Work Design Coordination	$12,000				
SEPA Services	$20,000				
Energy Modeling for Code	$41,900				
Executive Order 13-03 (LCCA)	$46,300				

NPDES Design Services	$12,000			
Arborist Survey and Tree Protection Plan	$20,000			
Fire and Lifesafety Consultant	$14,200			
Security Consultant	$49,600			
GCCM Interaction	$80,000			includes VE, Constructibility Review, Cost reconcilitation, & OAC preconstruction meetings
Bid Package Coordination	$40,000			Early bid packageing
Models and Animations	$45,000			
Façade Material Mock-ups	$20,000			
Environmental Mitigation Services (EIS) - Checklist Only	$20,000			
Outreach (neighborhood, CCDAC, SBC)	$15,000			
Partnering/Alignment	$26,000			
Elevator Consultant	$10,000			
Emergency Responder Radio	$10,600			
Photo Voltaic Design (NZE)	$22,500			
Building Analysis and Modeling (NZE)	$101,700			
Conformed Set	$30,000			
Cx A/E Participation	$67,000			
Historical Resources Documentation	$62,000			
Site Electrical and Data	$23,000			
Asbestos Abatement	$98,500			
Envelope Consultant	$72,300			
Hardware Consultant	$34,000			
Traffic and Parking Studies	$15,000			
Art Restoration/Relocation	$110,000			
Archeologist	$25,000			
Tenent relocation and space planning	$80,000			
Life Cycle Cost Assessment Tool	$16,200			
Insert Row Here				
Sub TOTAL	**$2,749,900**	**1.0774**	**$2,962,743**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$1,014,879			31% of A/E Basic Services
HVAC Balancing	$63,000			
Staffing				
Cx and Training	$120,000			
Reimbursibles /Reprographics	$8,000			
Testing and Inspections	$132,000			
Record Drawings	$42,000			
Building Envelope CFR & Air/Water Testing	$160,000			
Enhance CA	$268,614			Includes adjustment for basic services GCCM
Geotechnical CA Services	$80,000			
Arborist Inspection and Monitoring	$22,000			
Artwork installation coordination	$6,000			
Insert Row Here				
Sub TOTAL	**$1,916,493**	**1.1494**	**$2,202,817**	Escalated to Mid-Const.

5) Design Services Contingency				
Design Services Contingency	$370,323			
Other				Additional 5% Contingency for complex site scope
Insert Row Here				
Sub TOTAL	**$370,323**	**1.1494**	**$425,650**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$7,776,781**		**$8,538,347**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$2,274,000				
G20 - Site Improvements	$1,073,823				
G30 - Site Mechanical Utilities	$536,100				
G40 - Site Electrical Utilities	$777,000				
G60 - Other Site Construction					
Relocate Historic Fountain					
Estimating Design Contingency	$699,138				
Insert Row Here					
Sub TOTAL	**$5,360,061**		**1.1249**	**$6,029,533**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1249**	**$0**	
3) Facility Construction					
A10 - Foundations	$3,215,478				
A20 - Basement Construction	$0				
B10 - Superstructure	$5,515,984				
B20 - Exterior Closure	$7,016,002				
B30 - Roofing	$698,460				
C10 - Interior Construction	$3,333,017				
C20 - Stairs	$275,000				
C30 - Interior Finishes	$2,564,640				
D10 - Conveying	$345,000				
D20 - Plumbing Systems	$903,765				
D30 - HVAC Systems	$4,554,306				
D40 - Fire Protection Systems	$397,881				
D50 - Electrical Systems	$4,828,721				
F10 - Special Construction	$100,000				
F20 - Selective Demolition					
General Conditions					
CFCI Equipment	$912,502				
CFCI Casework & Fixed Furnishings	$641,742				
	$0				
Photovoltaic Arrays	$240,000				
Estimating Contingency	$5,295,375				Fifteen Percent typical to account for predesign detail level.
Escalation Contingency	$3,962,918				adds 1.6% escalation to OFM rate to equate to a total of 4% per year
Sub TOTAL	**$44,800,790**		**1.1494**	**$51,494,029**	
4) Maximum Allowable Construction Cost					

MACC Sub TOTAL	**$50,160,851**		**$57,523,562**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$1,385,938			
Sub Bonds	$475,839			
Insert Row Here				
Sub TOTAL	**$1,861,777**	**1.1494**	**$2,139,927**	
6) GCCM or Design Build Costs				
GCCM Fee	$3,171,941			
Bid General Conditions	$4,805,971			
GCCM Preconstruction Services	$250,000			
Other				
Insert Row Here				
Sub TOTAL	**$8,227,912**	**1.1494**	**$9,457,163**	
7) Construction Contingency				
Allowance for Change Orders	$2,508,043			
Other				
Additional Site Geotechnical Unknowns	$1,000,000			
Insert Row Here				
Sub TOTAL	**$3,508,043**	**1.1494**	**$4,032,145**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1494**	**$0**	
Sales Tax				
Sub TOTAL	**$5,993,307**		**$6,876,363**	
CONSTRUCTION CONTRACTS TOTAL	**$69,751,889**		**$80,029,160**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$417,956				
E20 - Furnishings	$985,589				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,403,545**		**1.1494**	**$1,613,235**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1494**	**$0**	
Sales Tax					
Sub TOTAL	**$131,933**			**$151,645**	
EQUIPMENT TOTAL	**$1,535,478**			**$1,764,880**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$461,388				0.5% of total project cost for new construction
Higher Ed Artwork	$0				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$461,388**		**NA**	**$461,388**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services					
Finance Recovery Fee	$243,000				Place Holder
Alternatively Funded PM Fee					Place Holder
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$243,000**		**1.1494**	**$279,305**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal	$50,000				
Historic and Archeological Mitigation	$250,000				
Building Permit Fees	$357,978				
Permit Technology Fee	$19,827				
Land Use & Planning Application	$45,445				City Permitting Fees - State not subject to City Land Use Codes
City - Engineering/General Facilities Fees	$105,000				City Permitting Fees
City - MEPF Plan Review Fees	$9,000				City Permitting Fees
Furniture Rental	$159,845				
Off-site Furniture Storage	$85,735				
Moving Costs	$46,800				
B&G Trades Support	$118,000				Place holder
B&G In Plant	$31,000				Place holder
Site Rep					
Applicable WSST on Consultant Services (if Design-Build procurement is favored)					If Design-Build procurement is favored add 9.4% to total consultant costs
Traffic Impact Fee	$202,239				net gsf change
Insert Row Here					
OTHER COSTS TOTAL	**$1,480,869**		**1.1249**	**$1,665,830**	

Green cells must be filled in by user

C-100(2020)
Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here

C-100(2020)

Updated June 2020

Quick Start Guide

GENERAL INFORMATION

1) The C-100(2020) tool was created to align with the estimating application in the Capital Budgeting System (CBS). The intended use is to enable project managers to communicate their project cost estimates to budget officers in the standard format required for capital project budget requests/submittals to OFM.

2) This workbook is protected so that the worksheets within it cannot be moved or deleted in the usual manner. This protection is necessary to ensure that the cost estimate details and formulas align with the estimating application in the Capital Budgeting System.

3) The estimating format to develop the maximum allowable construction cost (MACC) is presented in Uniformat II.

4) Form-calculated costs such as A/E Basic Design Service fees and Agency Project Management costs are dependent on other estimated project costs such as Acquisition, MACC, Equipment, etc.

5) Project estimates generated with this tool are not sufficient for budget request submittals to OFM. Use the Capital Budgeting System to submit capital project budget requests.

6) Contact your assigned OFM Capital Budget Analyst with questions.

OFM Capital Budget Analyst

INSTRUCTIONS

1) Only green cells are available for data entry.

2) Fill in all known cells in the 'Summary' tab prior to moving on to the cost entry tabs A-G.

3) It is recommended, but not required, to fill out cost entry tabs in the following order:

A. Acquisition, C. Construction Contracts, D. Equipment, G. Other Costs, B. Consultant Services, F. Project Management, then E. Artwork.

4) If additional rows are inserted to capture additional project costs, a description must be provided in the Notes column or within Tab H. Additional Notes. Be particularly detailed for additional costs estimated for contingencies and project management.

FORM-CALCULATED COSTS (FEE CALCULATIONS)

1) A/E Basic Design Services: AE Fee % (x) (MACC + Contingency)

2) Design Services Contingency: Contingency % (x) Consultant Services Subtotal

3) Construction Contingency: Contingency % (x) MACC

4) Artwork: 0.5% (x) Total Project Cost

5) Agency Project Management (Greater than $1million): (AE Fee % - 4%) (x) (Acquisition Total + Consultant Services Total + MACC + Construction Contingency + Other Costs)

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	House
Project Name	LCM O'Brien Remodel
OFM Project Number	

Contact Information	
Name	
Phone Number	
Email	

Statistics			
Gross Square Feet	17,630	MACC per Square Foot	$136
Usable Square Feet	17,630	Escalated MACC per Square Foot	$162
Space Efficiency	100.0%	A/E Fee Class	B
Construction Type	Office buildings	A/E Fee Percentage	12.43%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	2.38%	Higher Ed Institution	No
Sales Tax Rate %	9.40%	Location Used for Tax Rate	Olympia
Contingency Rate	10%		
Base Month	October-20	OFM UFI# (from FPMT, if available)	
Project Administered By	DES		

Schedule			
Predesign Start	August-18	Predesign End	November-20
Design Start	October-26	Design End	November-27
Construction Start	January-28	Construction End	July-28
Construction Duration	6 Months		

Green cells must be filled in by user

Project Cost Estimate			
Total Project	**$5,810,844**	Total Project Escalated	**$6,895,307**
		Rounded Escalated Total	**$6,895,000**

State of Washington
AGENCY / INSTITUTION PROJECT COST SUMMARY
Updated June 2020

Agency	House
Project Name	LCM O'Brien Remodel
OFM Project Number	

Cost Estimate Summary

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

Consultant Services			
Predesign Services	$209,718		
A/E Basic Design Services	$256,740		
Extra Services	$487,800		
Other Services	$257,784		
Design Services Contingency	$121,204		
Consultant Services Subtotal	**$1,333,246**	**Consultant Services Subtotal Escalated**	**$1,562,078**

Construction			
GC/CM Risk Contingency	$86,813		
GC/CM or D/B Costs	$540,773		
Construction Contingencies	$240,134	Construction Contingencies Escalated	$286,480
Maximum Allowable Construction Cost (MACC)	$2,401,339	Maximum Allowable Construction Cost (MACC) Escalated	$2,864,798
Sales Tax	$307,292	Sales Tax Escalated	$366,599
Construction Subtotal	**$3,576,350**	**Construction Subtotal Escalated**	**$4,266,588**

Equipment			
Equipment	$521,088		
Sales Tax	$48,982		
Non-Taxable Items	$0		
Equipment Subtotal	**$570,070**	**Equipment Subtotal Escalated**	**$680,094**

Artwork			
Artwork Subtotal	**$34,305**	**Artwork Subtotal Escalated**	**$34,305**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$17,500**	**Project Administation Subtotal Escalated**	**$20,878**

Other Costs			
Other Costs Subtotal	**$279,372**	**Other Costs Subtotal Escalated**	**$331,364**

Project Cost Estimate			
Total Project	**$5,810,844**	Total Project Escalated	**$6,895,307**
		Rounded Escalated Total	**$6,895,000**

Cost Estimate Details

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

Green cells must be filled in by user

Cost Estimate Details

Consultant Services					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services					
Programming/Site Analysis					
Environmental Analysis					
Predesign Study	$209,718				
Other					
Insert Row Here					
Sub TOTAL	**$209,718**		**1.1516**	**$241,512**	Escalated to Design Start
2) Construction Documents					
A/E Basic Design Services	$226,551				69% of A/E Basic Services
Other					
Adjusted Basic Services	$30,189				Adjusted Basic Serv. Contract for GCCM
Insert Row Here					
Sub TOTAL	**$256,740**		**1.1664**	**$299,462**	Escalated to Mid-Design
3) Extra Services					
Civil Design (Above Basic Svcs)	$20,000				
Geotechnical Investigation	$0				
Commissioning	$24,000				
Site Survey	$0				
Testing	$0				
LEED Services	$0				
Voice/Data Consultant	$30,500				
Value Engineering	$0				
Constructability Review	$0				
Environmental Mitigation (EIS)	$0				
Landscape Consultant	$10,000				
Security and Access Consultant	$19,500				
Lighting Consultant	$22,000				
Document Reproduction	$12,000				
Acoustical Consultant	$12,300				
LEED Documentation	$59,000				
Advertising	$2,000				
Hazardous Materials Consultant	$26,800				
VE Design Team Participation					In GCCM interaction
Constructibility Review					In GCCM interaction
Site Verification and Measurement	$6,300				
Audio Visual and CATV Consultant	$21,500				
Stormwater Report (SWPP, NOI), & Permitting	$0				
Energy Conservation Report (ELCCA)	$0				
Interior Design Consultant	$29,000				
Graphics and Signage Consultant	$18,000				
Art Work Design Coordination	$5,000				
SEPA Services	$0				
Energy Modeling for Code	$0				
Executive Order 13-03 (LCCA)	$15,000				
NPDES Design Services	$0				

Arborist Survey and Tree Protection Plan	$0			
Fire and Lifesafety Consultant	$10,000			
Security Consultant	$20,000			
GCCM Interaction	$15,000			includes VE, Constructibility Review, Cost reconcilitation, & OAC preconstruction meetings
Bid Package Coordination	$0			Early bid packageing
Models and Animations	$15,000			
Façade Material Mock-ups	$0			
Environmental Mitigation Services (EIS) - Checklist Only	$0			
Outreach (neighborhood, CCDAC, SBC)	$0			
Partnering/Alignment	$8,000			
Elevator Consultant	$0			
Emergency Responder Radio	$0			
Photo Voltaic Design (NZE)	$0			
Building Analysis and Modeling (NZE)	$0			
Conformed Set	$18,900			
Cx A/E Participation	$12,000			
Life Cycle Cost Assessment Tool	$9,000			
Site Electrical and Data	$0			
Asbestos Abatement	$22,000			
Envelope Consultant	$0			
Hardware Consultant	$8,000			
Traffic and Parking Studies	$0			
Tenent Relocation and Space Planning	$17,000			
Archeologist	$0			
Insert Row Here				
Sub TOTAL	**$487,800**	**1.1664**	**$568,970**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$101,784			31% of A/E Basic Services
HVAC Balancing	$40,000			
Staffing				
Cx and Training	$18,000			
Reimbursibles /Reprographics	$20,000			
Testing and Inspections	$45,000			
Record Drawings	$16,000			
Building Envelope CFR & Air/Water Testing	$0			
Enhance CA	$15,000			Includes adjustment for basic services GCCM
Geotechnical CA Services	$0			
Arborist Inspection and Monitoring	$0			
Artwork installation coordination	$2,000			
Insert Row Here				
Sub TOTAL	**$257,784**	**1.1930**	**$307,537**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$121,204			

Other				Additional 5% Contingency for complex site scope
Insert Row Here				
Sub TOTAL	**$121,204**	**1.1930**	**$144,597**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$1,333,246**		**$1,562,078**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
1) Site Work					
G10 - Site Preparation					
G20 - Site Improvements					
G30 - Site Mechanical Utilities					
G40 - Site Electrical Utilities					
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1861**	**$0**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1861**	**$0**	
3) Facility Construction					
A10 - Foundations					
A20 - Basement Construction					
B10 - Superstructure	$8,815				
B20 - Exterior Closure					
B30 - Roofing					
C10 - Interior Construction	$164,556				
C20 - Stairs					
C30 - Interior Finishes	$352,600				
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems	$95,138				
D40 - Fire Protection Systems	$35,260				
D50 - Electrical Systems	$650,306				
F10 - Special Construction					
F20 - Selective Demolition	$124,856				
General Conditions	see below				
CFCI Equipment	$0				
CFCI Casework & Fixed Furnishings	$108,150				
Replacement of HVAC Equipment - Allowance	$75,000				
Access Control and CCTV Systems - Allowance	$308,525				
Estimating Design Contingency	$230,952				Fifteen Percent typical to account for predesign detail level.
Escalation Contingency	$247,181				adds 1.6% escalation to OFM rate to equate to a total of 4% per year
Sub TOTAL	**$2,401,339**		**1.1930**	**$2,864,798**	

4) Maximum Allowable Construction Cost			
MACC Sub TOTAL	**$2,401,339**		**$2,864,798**

5) GCCM Risk Contingency				
GCCM Risk Contingency	$64,625			
Sub Bonds	$22,188			
Insert Row Here				
Sub TOTAL	**$86,813**	**1.1930**	**$103,568**	
6) GCCM or Design Build Costs				
GCCM Fee	$154,627			
Bid General Conditions	$336,146			
GCCM Preconstruction Services	$50,000			
Other				
Insert Row Here				
Sub TOTAL	**$540,773**	**1.1930**	**$645,143**	
7) Construction Contingency				
Allowance for Change Orders	$240,134			
Other				
Additional Site Geotechnical Unknowns				
Insert Row Here				
Sub TOTAL	**$240,134**	**1.1930**	**$286,480**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1930**	**$0**	
Sales Tax				
Sub TOTAL	**$307,292**		**$366,599**	
CONSTRUCTION CONTRACTS TOTAL	**$3,576,350**		**$4,266,588**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
E10 - Equipment	$47,495				
E20 - Furnishings	$473,593				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$521,088**		**1.1930**	**$621,658**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1930**	**$0**	
Sales Tax					
Sub TOTAL	**$48,982**			**$58,436**	
EQUIPMENT TOTAL	**$570,070**			**$680,094**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$34,305				0.5% of total project cost for new construction
Higher Ed Artwork	$0				0.5% of total project cost for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$34,305**		**NA**	**$34,305**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services					
Finance Recovery Fee	$17,500				Place Holder
Alternatively Funded PM Fee					TBD
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$17,500**		**1.1930**	**$20,878**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal	$60,000				
Historic and Archeological Mitigation	$60,000				
Building Permit Fees	$18,772				
Permit Technology Fee	$732				
Land Use & Planning Application	$0				City Permitting Fees - State not subject to City Land Use Codes
City - Engineering/General Facilities Fees	$0				City Permitting Fees
City - MEPF Plan Review Fees	$2,000				City Permitting Fees
Furniture Rental	$43,035				
Off-site Storage	$23,083				
Moving Costs	$60,750				
B&G Trades Support	$8,500				Place Holder
B&G In Plant	$2,500				Place Holder
Site Rep					
Applicable WSST on Consultant Services (if Design-Build procurement is favored)					If Design-Build procurement is favored add 9.4% to total consultant costs
Insert Row Here					
OTHER COSTS TOTAL	**$279,372**		**1.1861**	**$331,364**	

Green cells must be filled in by user

C-100(2020)
Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here

Life Cycle Cost Analysis - Project Summary

Agency	Senate, Caucus, Legislative Support Services (LSS), Producion & Design, Page School, & Shared Space (Security… etc.
Project Title	Legislative Campus Modernization (Newhouse Predesign)

Existing Description	Leases #1 - #5 are for the Senate, Caucus, Legislative Support Services (LSS), Page School, and Shared Services (Security, etc.), on West Campus and lease #6 Production & Design at the 1007 Washington Street, Olympia.

Lease Option 1 Description	New full-serviced lease in Olympia at high market rate. This option assumes a newly constructed facility.

Lease Option 2 Description	

Ownership Option 1 Description	Newhouse Replacement as part of the Legislative Campus Modernization 92000020.

Ownership Option 2 Description	

Ownership Option 3 Description	

Lease Options Information	Existing Lease	Lease Option 1	Lease Option 2
Total Rentable Square Feet	24,782	64,765	-
Annual Lease Cost (Initial Term of Lease)	$ 313,413	$ 2,370,298	$ -
Full Service Cost/SF (Initial Term of Lease)	$ 12.65	$ 36.60	$ -
Occupancy Date	n/a	4/1/2025	
Project Initial Costs	n/a	$ 1,580,171	$ -
Persons Relocating	117	117	-
RSF/Person Calculated	212	554	-

Ownership Information	Ownership 1	Ownership 2	Ownership 3
Total Gross Square Feet	64,765	-	-
Total Rentable Square Feet	38,552	-	-
Occupancy Date	4/1/2025		
Initial Project Costs	$ 35,055	$ -	$ -
Est Construction TPC ($/GSF)	$ 1,348	$ -	$ -

RSF/Person Calculated	330	-	-

Financial Analysis of Options

Years	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
20	20 Year Cumulative Cash	$ 9,436,846	$ 55,336,670	$ -			$ 110,574,109				$ -				$ -	
	20 Year Net Present Value	$ 8,904,578	$ 52,114,633	$ -			$ 104,353,420				$ -				$ -	
	Lowest Cost Option (Analysis Period)	**1**	**2**				**3**									

The best NPV result for the 20 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

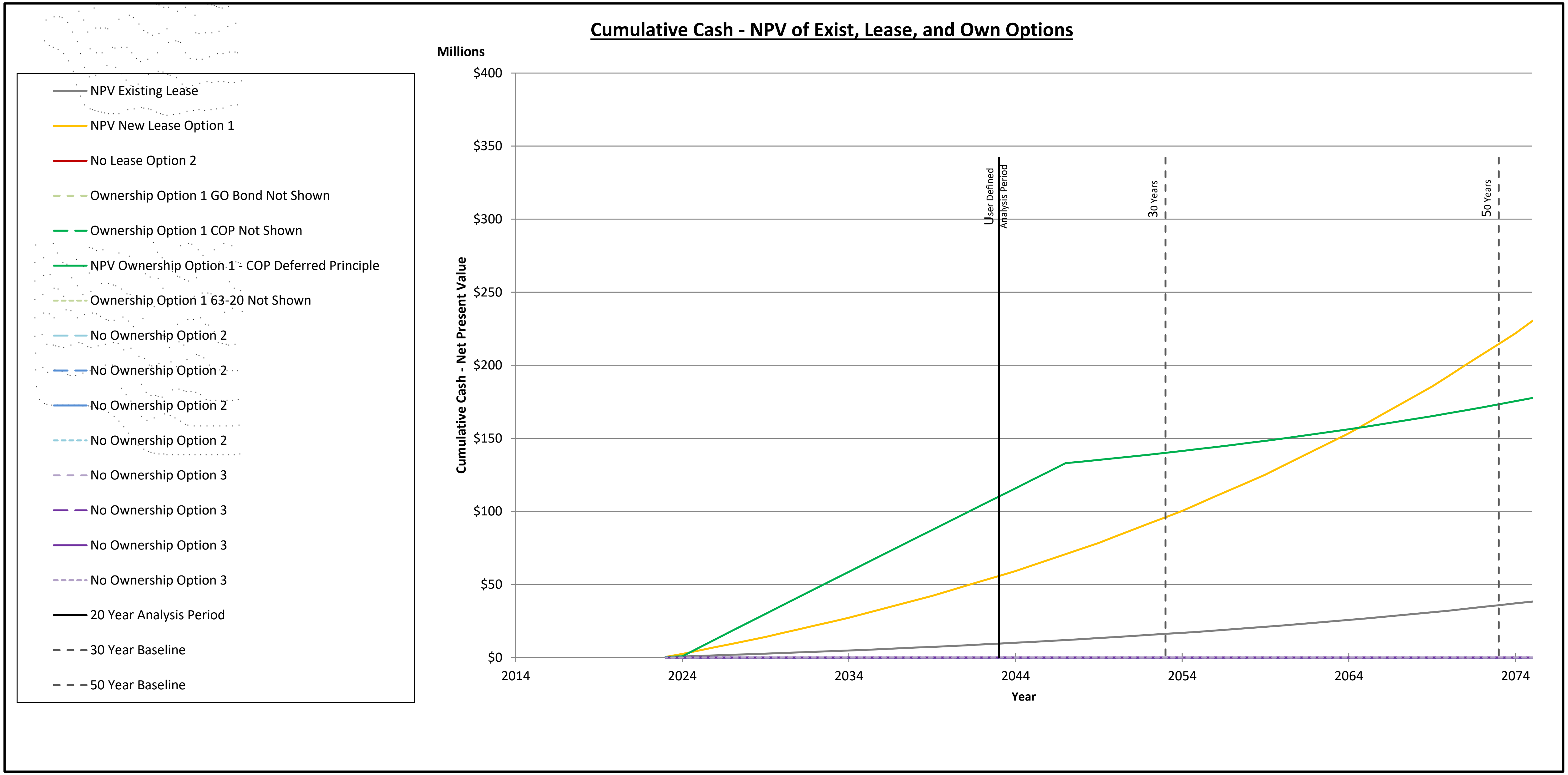
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ 16,830,111	$ 100,090,327	$ -			$ 149,465,956				$ -				$ -	
	30 Year Net Present Value	$ 15,369,748	$ 91,249,933	$ -			$ 138,711,375				$ -				$ -	
	Lowest Cost Option (30 Years)	**1**	**2**				**3**									

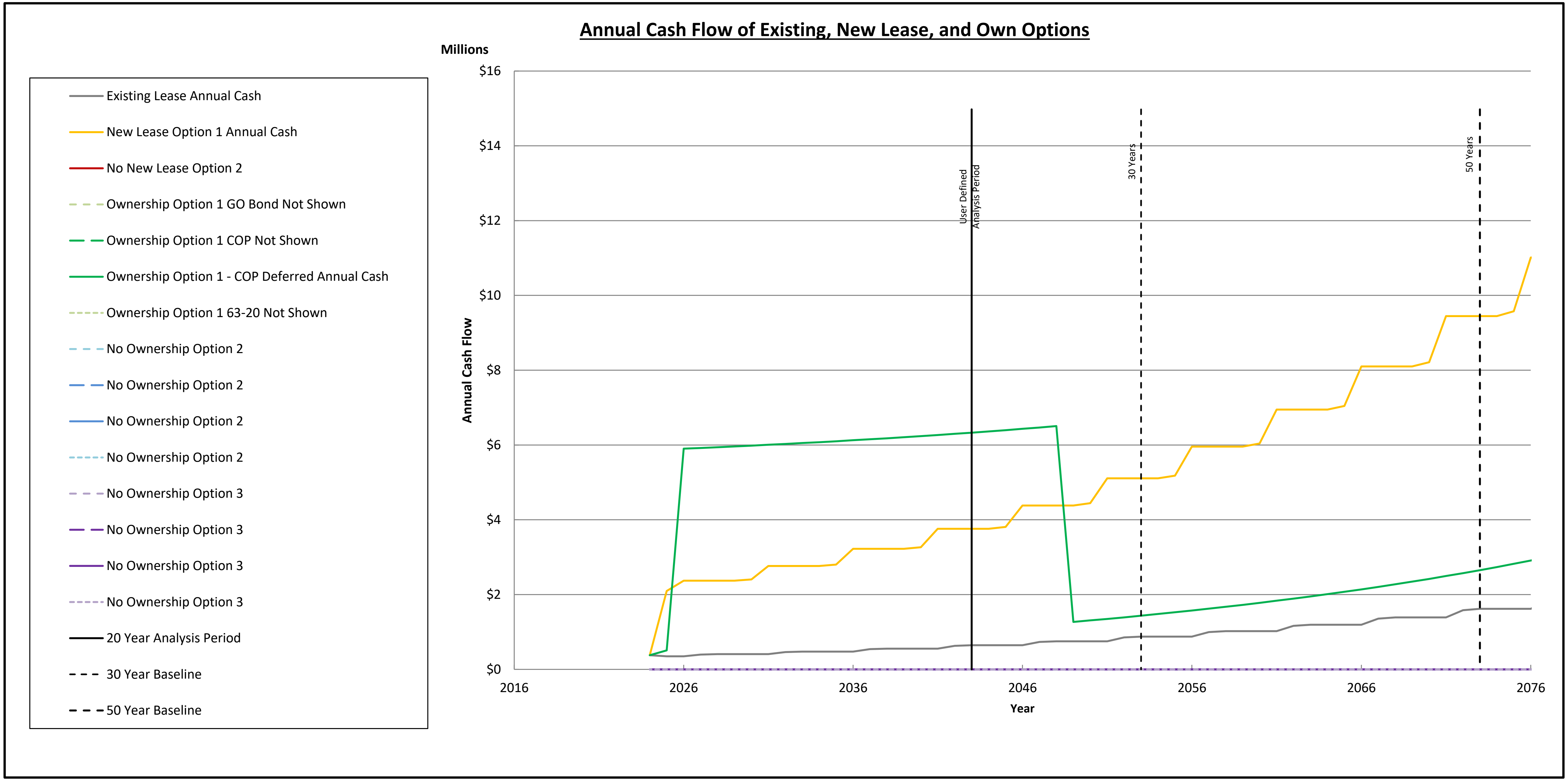
The best NPV result for the 30 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ 40,550,073	$ 243,674,400	$ -			$ 189,618,437				$ -				$ -	
	50 Year Net Present Value	$ 34,450,463	$ 206,750,292	$ -			$ 171,014,934				$ -				$ -	
	Lowest Cost Option (50 Years)	**1**	**3**				**2**									

The best NPV result for the 50 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

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


Cumulative Cash - NPV of Exist, Lease, and Own Options
Millions
NPV Existing Lease
NPV New Lease Option 1
No Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
NPV Ownership Option 1 - COP Deferred Principle
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
$400
$350
$300
$250
$200
$150
$100
$50
$0
Cumulative Cash - Net Present Value
User Defined Analysis Period
30 Years
50 Years
2014
2024
2034
2044
2054
2064
2074
Year



Annual Cash Flow of Existing, New Lease, and Own Options
Existing Lease Annual Cash
New Lease Option 1 Annual Cash
No New Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
Ownership Option 1 - COP Deferred Annual Cash
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
Millions
$16
$14
$12
$10
$8
$6
$4
$2
$0
Annual Cash Flow
User Defined Analysis Period
30 Years
50 Years
2016
2026
2036
2046
2056
2066
2076
Year

Financial Assumptions

Date of Life Cycle Cost Analysis:	11/4/2020
Analysis Period Start Date	4/2/2023
User Input Years of Analysis	20

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

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	Lease Option 1	Lease Option 2	GO Bond	COP	63-20	GO Bond	COP	63-20	GO Bond	COP	63-20
Inflation / Interest Rate	3.120%	3.120%	3.120%	3.540%	3.670%	3.670%	3.540%	3.720%	3.720%	3.540%	3.720%	3.720%
Discount Rate	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%
Length of Financing	N/A	N/A	N/A	25	25	25	25	25	25	25	25	25

See Financial Assumptions tab for more detailed information

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

New Lease Assumptions

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

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

IT infrastructure is estimated at $511.54 per person.

Furniture costs are estimated at $730.77 per person and do not include new workstations.

Moving Vendor and Supplies are estimated at $299.62 per person.

Default Ownership Options Assumptions

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

Assumes surface parking.

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

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

See the Capital Construction Defaults tab for more construction assumptions.

Life Cycle Cost Analysis - Project Summary

Agency	House of Representatives, Third House, Legislative Service Center (LEG TECH), & Code Revisor
Project Title	Legislative Campus Modernization (Pritchard Predesign)

Existing Description	Leases #1 - #6 represent the House, Public Space, Third House, Code Revisor, LEG-TECH, and LSS Photo spaces on the West Capitol Campus.

Lease Option 1 Description	New full-serviced lease in Olympia at high market rate. This option assumes a newly constructed facility.

Lease Option 2 Description	

Ownership Option 1 Description	Major renovation and reconfiguration of the Pritchard Building as part of the Legislative Campus Modernization.

Ownership Option 2 Description	

Ownership Option 3 Description	

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	29,524	72,342	-
Annual Lease Cost (Initial Term of Lease)	$ 447,289	$ 2,844,553	$ -
Full Service Cost/SF (Initial Term of Lease)	$ 15.15	$ 39.32	$ -
Occupancy Date	n/a	8/2/2027	
Project Initial Costs	n/a	$ 1,776,855	$ -
Persons Relocating	155	155	-
RSF/Person Calculated	190	467	-

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	72,342	-	-
Total Rentable Square Feet	43,560	-	-
Occupancy Date	8/1/2027		
Initial Project Costs	$ 34,440	$ -	$ -
Est Construction TPC ($/GSF)	$ 1,562	$ -	$ -

RSF/Person Calculated	281	-	-

Financial Analysis of Options

	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
20	20 Year Cumulative Cash	$ 14,454,086	$ 66,263,246	$ -			$ 134,517,188				$ -				$ -	
	20 Year Net Present Value	$ 13,641,316	$ 62,402,596	$ -			$ 126,865,305				$ -				$ -	
	Lowest Cost Option (Analysis Period)	**1**	**2**				**3**									

The best NPV result for the 20 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

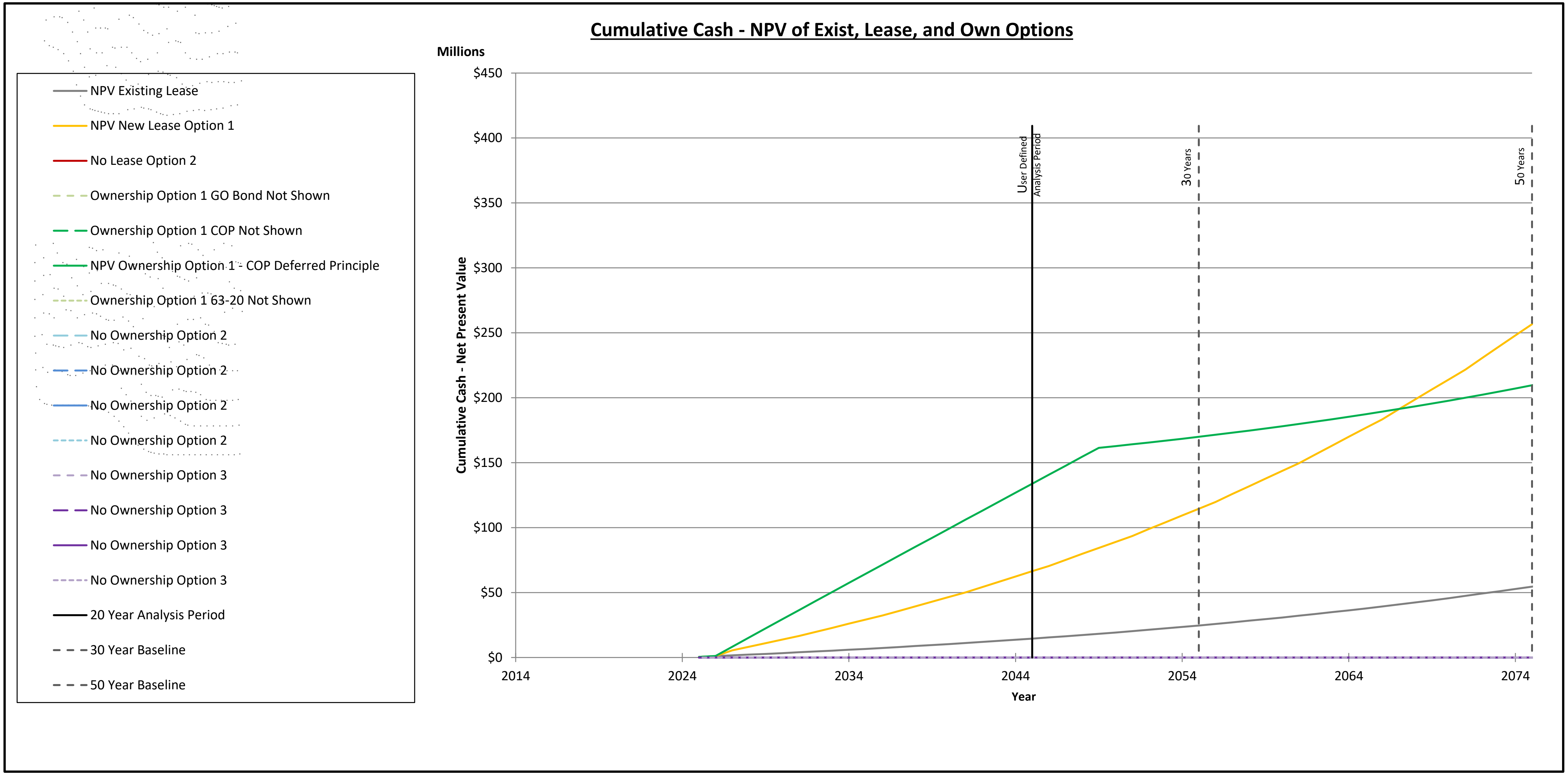
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ 25,778,091	$ 119,971,312	$ -			$ 181,606,029				$ -				$ -	
	30 Year Net Present Value	$ 23,545,595	$ 109,368,172	$ -			$ 168,441,561				$ -				$ -	
	Lowest Cost Option (30 Years)	**1**	**2**				**3**									

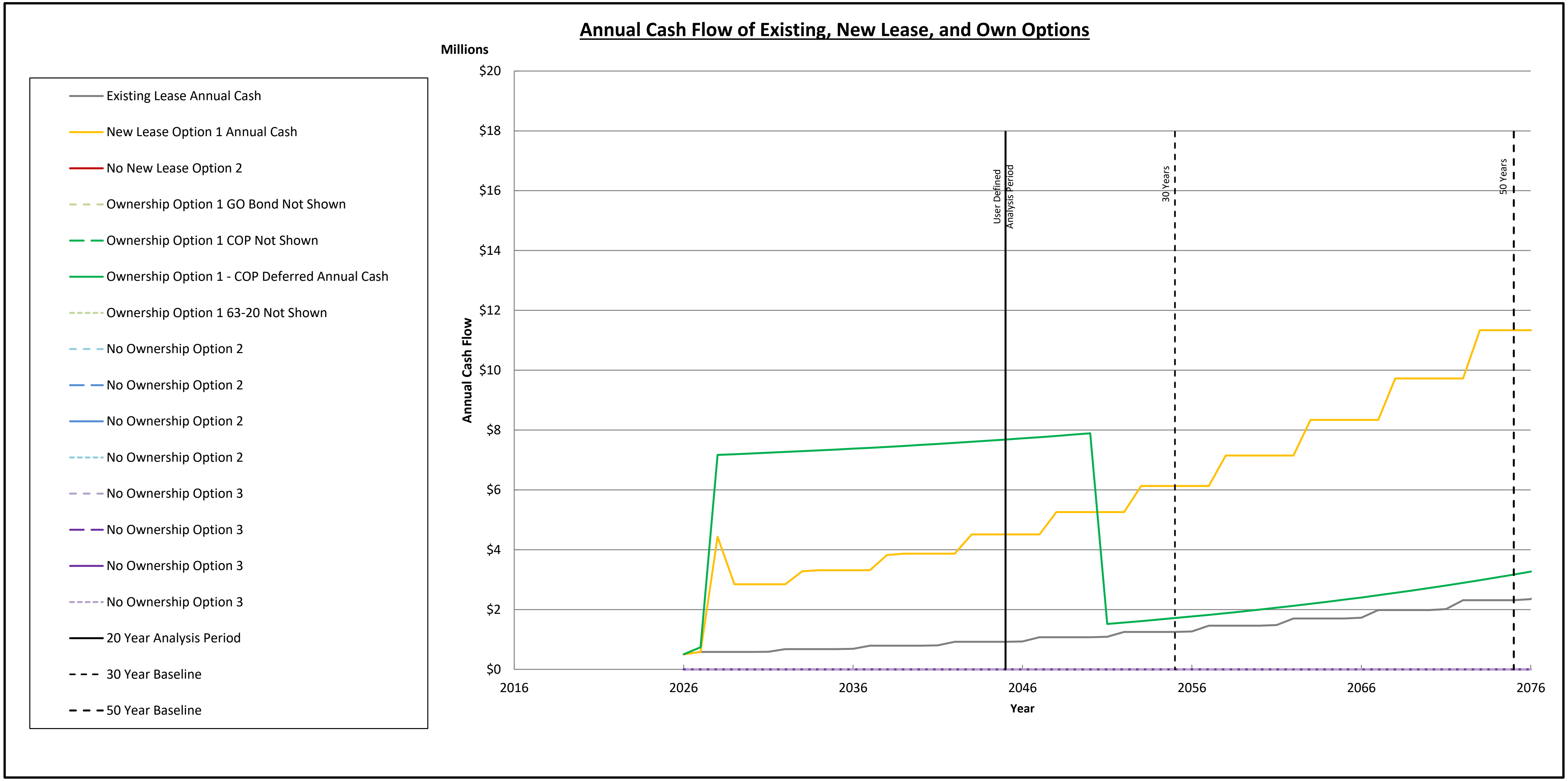
The best NPV result for the 30 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ 62,109,126	$ 292,283,998	$ -			$ 229,679,916				$ -				$ -	
	50 Year Net Present Value	$ 52,776,184	$ 247,978,093	$ -			$ 207,117,898				$ -				$ -	
	Lowest Cost Option (50 Years)	**1**	**3**				**2**									

The best NPV result for the 50 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

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


Cumulative Cash - NPV of Exist, Lease, and Own Options
Millions
NPV Existing Lease
NPV New Lease Option 1
No Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
NPV Ownership Option 1 - COP Deferred Principle
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
$450
$400
$350
$300
$250
$200
$150
$100
$50
$0
Cumulative Cash - Net Present Value
User Defined Analysis Period
30 Years
50 Years
2014
2024
2034
2044
2054
2064
2074
Year


Annual Cash Flow of Existing, New Lease, and Own Options
Millions
Existing Lease Annual Cash
New Lease Option 1 Annual Cash
No New Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
Ownership Option 1 - COP Deferred Annual Cash
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
$20
$18
$16
$14
$12
$10
$8
$6
$4
$2
$0
Annual Cash Flow
User Defined Analysis Period
30 Years
50 Years
2016
2026
2036
2046
2056
2066
2076
Year

Financial Assumptions

Date of Life Cycle Cost Analysis:	11/4/2020
Analysis Period Start Date	8/1/2025
User Input Years of Analysis	20

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

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	Lease Option 1	Lease Option 2	GO Bond	COP	63-20	GO Bond	COP	63-20	GO Bond	COP	63-20
Inflation / Interest Rate	3.120%	3.120%	3.120%	3.540%	3.670%	3.670%	3.540%	3.720%	3.720%	3.540%	3.720%	3.720%
Discount Rate	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%
Length of Financing	N/A	N/A	N/A	25	25	25	25	25	25	25	25	25

See Financial Assumptions tab for more detailed information

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

New Lease Assumptions

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

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

IT infrastructure is estimated at $379.35 per person.

Furniture costs are estimated at $541.94 per person and do not include new workstations.

Moving Vendor and Supplies are estimated at $222.19 per person.

Default Ownership Options Assumptions

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

Assumes surface parking.

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

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

See the Capital Construction Defaults tab for more construction assumptions.

Life Cycle Cost Analysis - Project Summary

Agency	House of Represenatives
Project Title	Legislative Campus Modernization (O'Brien Renovation)

Existing Description	Leases #1 represents the House of Representatives. All data is per the Space Allocation Tables from the "Legislative Campus Modernization" Predesign Report prepared by MITHUN on 2 November 2020.

Lease Option 1 Description	New full-serviced lease in Olympia at high market rate. This option assumes a newly constructed facility.

Lease Option 2 Description	

Ownership Option 1 Description	O'Brien 3rd and 4th floor renovation as part of the Legislative Campus Modernization.

Ownership Option 2 Description	

Ownership Option 3 Description	

Lease Options Information	**Existing Lease**	**Lease Option 1**	**Lease Option 2**
Total Rentable Square Feet	5,916	17,600	-
Annual Lease Cost (Initial Term of Lease)	$ 89,627	$ 711,766	$ -
Full Service Cost/SF (Initial Term of Lease)	$ 15.15	$ 40.44	$ -
Occupancy Date	n/a	7/1/2028	
Project Initial Costs	n/a	$ 458,113	$ -
Persons Relocating	58	58	-
RSF/Person Calculated	102	303	-

Ownership Information	**Ownership 1**	**Ownership 2**	**Ownership 3**
Total Gross Square Feet	17,600	-	-
Total Rentable Square Feet	9,355	-	-
Occupancy Date	7/1/2028		
Initial Project Costs	$ 12,710	$ -	$ -
Est Construction TPC ($/GSF)	$ 501	$ -	$ -

RSF/Person Calculated	161	-	-

Financial Analysis of Options

Years	*Display Option?*	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
20	20 Year Cumulative Cash	$ 2,973,939	$ 16,623,566	$ -			$ 13,532,915				$ -				$ -	
	20 Year Net Present Value	$ 2,807,531	$ 15,656,090	$ -			$ 12,757,837				$ -				$ -	
	Lowest Cost Option (Analysis Period)	1	3				2									

The best NPV result for the 20 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

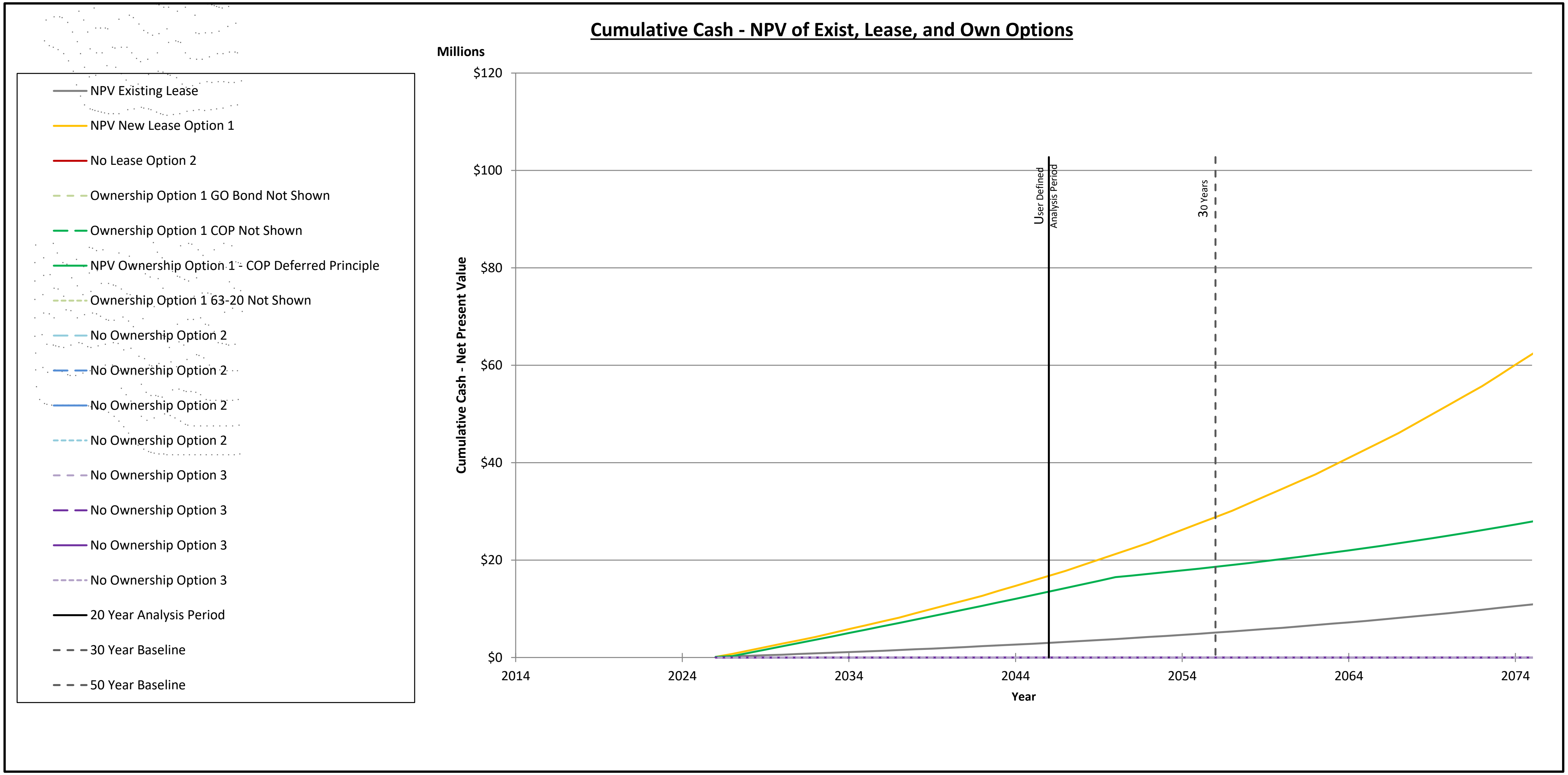
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ 5,303,862	$ 30,062,443	$ -			$ 19,731,894				$ -				$ -	
	30 Year Net Present Value	$ 4,845,939	$ 27,407,856	$ -			$ 18,208,431				$ -				$ -	
	Lowest Cost Option (30 Years)	1	3				2									

The best NPV result for the 30 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

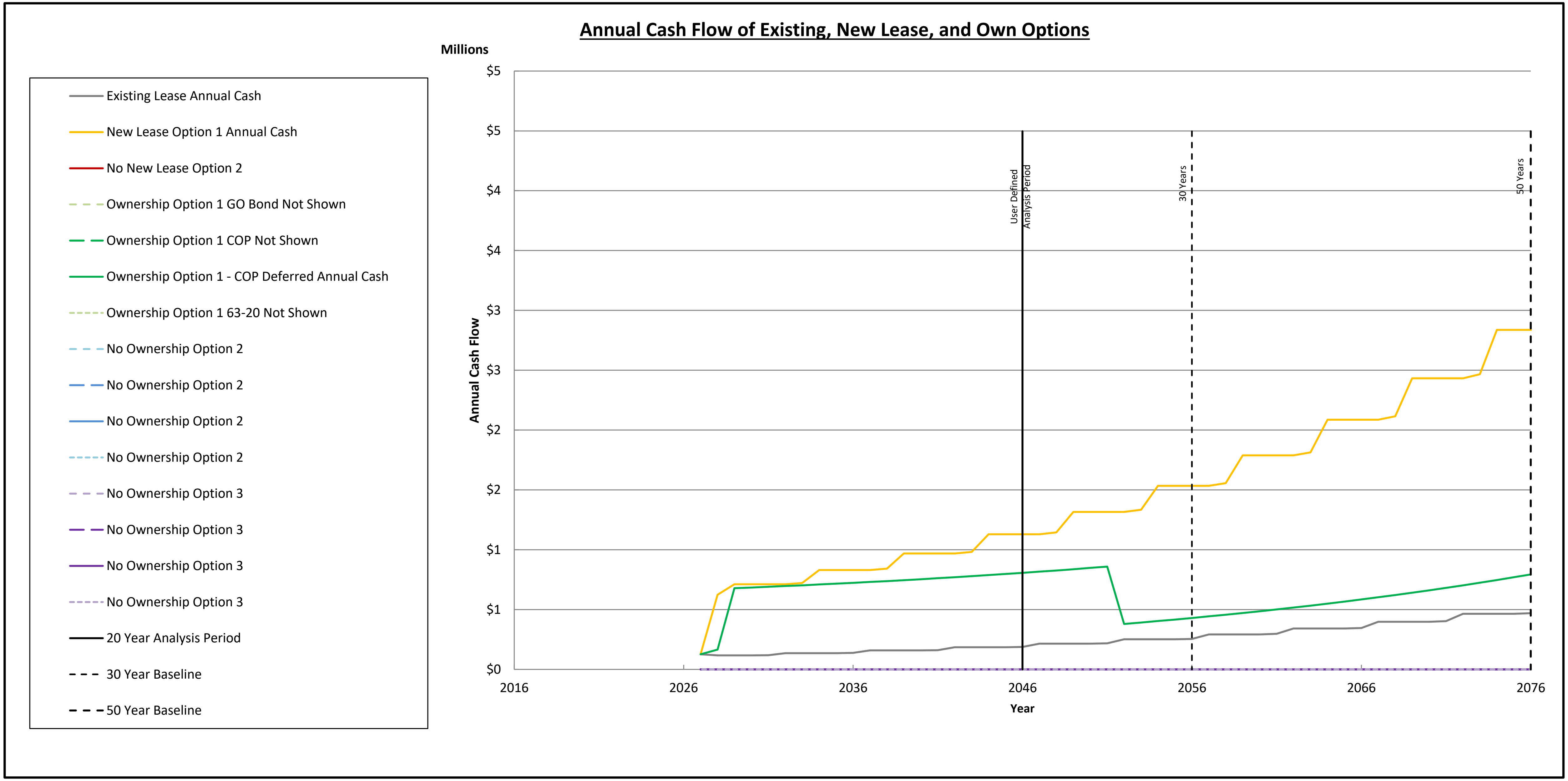
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
50	50 Year Cumulative Cash	$ 12,779,000	$ 73,178,667	$ -			$ 31,748,035				$ -				$ -	
	50 Year Net Present Value	$ 10,861,911	$ 62,090,946	$ -			$ 27,875,633				$ -				$ -	
	Lowest Cost Option (50 Years)	1	3				2									

The best NPV result for the 50 year analysis period is the Existing Lease option using Current financing. This option becomes the best financial alternative in 2020.

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



Cumulative Cash - NPV of Exist, Lease, and Own Options
NPV Existing Lease
NPV New Lease Option 1
No Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
NPV Ownership Option 1 - COP Deferred Principle
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
Millions
$120
$100
$80
$60
$40
$20
$0
Cumulative Cash - Net Present Value
User Defined Analysis Period
30 Years
2014
2024
2034
2044
2054
2064
2074
Year


Annual Cash Flow of Existing, New Lease, and Own Options
Millions
Existing Lease Annual Cash
New Lease Option 1 Annual Cash
No New Lease Option 2
Ownership Option 1 GO Bond Not Shown
Ownership Option 1 COP Not Shown
Ownership Option 1 - COP Deferred Annual Cash
Ownership Option 1 63-20 Not Shown
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 2
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
No Ownership Option 3
20 Year Analysis Period
30 Year Baseline
50 Year Baseline
$5
$5
$4
$4
$3
$3
$2
$2
$1
$1
$0
Annual Cash Flow
User Defined Analysis Period
30 Years
50 Years
2016
2026
2036
2046
2056
2066
2076
Year

Financial Assumptions

Date of Life Cycle Cost Analysis:	11/4/2020
Analysis Period Start Date	7/2/2026
User Input Years of Analysis	20

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

	Lease Options			**Ownership Option 1**			**Ownership Option 2**			**Ownership Option 3**		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.120%	3.120%	3.120%	3.540%	3.720%	3.720%	3.540%	3.720%	3.720%	3.540%	3.720%	3.720%
Discount Rate	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%
Length of Financing	N/A	N/A	N/A	25	25	25	25	25	25	25	25	25

See Financial Assumptions tab for more detailed information

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

New Lease Assumptions

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

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

IT infrastructure is estimated at $374.14 per person.

Furniture costs are estimated at $534.48 per person and do not include new workstations.

Moving Vendor and Supplies are estimated at $219.14 per person.

Default Ownership Options Assumptions

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

Assumes surface parking.

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

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

See the Capital Construction Defaults tab for more construction assumptions.

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

November 30, 2020

Mr. Kevin Dragon
PPD Program Manager
WA State Dept. of Enterprise Services
Via electronic mail to kevin.dragon@des.wa.gov

In future correspondence please refer to:
Project Tracking Code: 2020-11-07281
Property: Capitol Campus: Newhouse, Press Houses, Pritchard Library
Re: Legislative Campus Modernization (LCM) Predesign (DES Project No. 18-527)

Dear Mr. Dragon:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). We appreciate the ongoing discussions regarding the Legislative Campus Modernization (LCM) and look forward to our continued engagement regarding this project. The following comments are being provided on behalf of the State Historic Preservation Officer (SHPO) pursuant to Governor's Executive Order 05-05 and RCW 79.24. Our review is based upon documentation contained in your communication.

Climate Change

In order to combat climate change, achieve net zero energy goals, and reduce greenhouse gas emissions in our capital facilities, we must look at our existing building stock for retrofit opportunities. To quote the infamous Carl Elefante, former president of the American Institute of Architects, "the greenest building is the one that already exists." Existing buildings have a fraction of the carbon debt of efficient new buildings because their carbon has already been embodied in its construction. Reusing existing buildings reduces construction waste and capitalizes on embodied carbon. Building reuse should be an absolute priority in any evaluation that involves the potential demolition of existing resources.

Washington State is a leader in the discussion and resolution of climate change impacts. We must demonstrate that leadership through the retrofit, reuse and efficiency of our historic buildings. Europe, North Africa and Middle East have all managed to maintain their historic buildings and make them energy efficient. The retrofit of historic buildings have been prioritized in their endeavors. Washington State must take an audacious stance on reusing our existing buildings.

We note that a primary project objective is to deliver an office building with an Energy Use Intensity (EUI) less than 35 kBTU/sf/year. This is achievable with existing buildings, but EUI is not the only measurement tool to achieve climate change through building retrofits. Embodied carbon is an important factor when considering whether or not to reuse existing buildings. Such a calculation should be integrated into all future predesign studies that consider alternatives to demolition. Neither built heritage nor the environmental impact of wasting embodied carbon are singular deciding factors, but we certainly encourage more weight be given to them.

Economy
Retrofitting buildings proportionately benefits local economies because more money is put into the labor and workforce than in pre-manufactured materials. This ensures that more money stays in the local economy and thus promotes social equity.

Pritchard Library
The Washington State Library was listed individually listed on the National Register of Historic Places (NRHP) in 2015. Commonly known as the Pritchard building, it was completed in 1958 as the official State Library. As the first building designed specifically for state library use, the building is important for its direct ties between the legislature and records documentation. The structure is also notable as an example of the work of Paul Thiry, who is considered the founding father of modernism in the State. The building is a seminal example of his work and is an irreplaceable icon of Pacific Northwest architectural legacy. The building was awarded the first American Institute of Architects (AIA) / American Library Association (ALA) design award for library buildings upon its completion, gaining national notoriety and accolades.

There are also several irreplaceable works of fine art, commissioned as part of the original 2.5% construction budget dedicated to the arts. This includes a mosaic by preeminent artist James FitzGerald, photographs by notable Mountaineers photographers Bob and Ira Spring, murals by Kenneth Callahan and infamous “big four” artist Mark Tobey, and the Du Pen Fountain by John Elliott. The combination of unique art and the architectural inheritance of the building cannot be replicated. It is a remarkably emblematic and tangible representation of the growth of the Washington State Library, a legacy which should be preserved and adaptively reused.

In addition to Pritchard’s cultural value, it also represents a significant opportunity to showcase how retrofitting existing buildings achieves our shared climate changes goals as mentioned above.

Historic Significance and Heritage
This predesign study also encompasses several other historic properties on the Capitol Campus in Olympia. Resources potentially impacted by this project include several National Register listed properties: the *Washington State Capitol Historic District*, *Cherberg Building,* and *O’Brien Building.* Also impacted are several National Register eligible buildings: *Newhouse Building, Dr. Phillip Carlyon House,* and the *Ayer Duplex.*

Completed in 1934, the Irv Newhouse building originally severed as the Highways Building and was the outcome of the growth of the Highway Department during the Depression era whom was handling $6 million dollars in federal public works programs. It was the fourth building to be constructed on campus and broke the original vision of the campus by the Wilder & White plan. The design also varied from the architectural aesthetic of the rest of the campus. As such it is a good example of the Art Deco/Stripped Classical style and was designed by local architect Joseph Wohleb.

Built in 1923, the Dr. Phillip Carlyon House (known collectively with the Ayer Duplex as the “Press Houses”) is an excellent example of a Craftsman style Bungalow. It is the only remaining home fronting 14th Avenue, which historically was lined with residential properties. The dwelling was home to famed Olympia resident Dr. Phillip H. Carlyon, mayor of Olympia from 1904-1906, Legislative member from 1907-1911, member of the City Park Commission and president of the Olympia Chamber of Commerce. Dr. Carlyon, is also noted for his real estate development of the Carlyon neighborhood in south Olympia, south of Interstate 5.

The Ayer Duplex (known collectively with the Carlyon House as the “Press Houses”) was designed by Elizabeth Ayer, the first female graduate of University Washington's School of Architecture in 1921, and first female registered architect in of the state (1930). A native of Thurston County, Ms. Ayer is well known throughout the northwest for her numerous well-designed residential properties. In addition to its designer, the Ayer Duplex is historically significant for its association to William and Mary Sullivan. William was the State Insurance Commissioner for 28 years, most of which he lived in the Ayer Duplex.

Process Improvement

We understand the programmatic, code, and deferred maintenance challenges associated with these existing buildings. We also understand the need to provide adequate spaces for the Legislature to maintain business operations. However, we are disappointed in the process regarding this project. We were initially invited to consult informally through a conference call with DES to discuss the beginning of the predesign study given the Legislature's proviso (Section 1027 of the 2020 Supplemental Budget (ESSB 6248.SL)). We did not receive any additional information until another informational meeting was convened between DES and DAHP. At that point, a preferred alternative had already been selected without our input or analysis provided by the Capitol Campus Conservator. This was not a consultative process as prescribed in RCW 79.24 and Governor's Executive Order 05-05. Per the statements made above, we look forward to our continued partnership in leading Washington state on climate change, particular as it pertains to reusing existing buildings.

Mitigation

If the preferred alternative is implemented, there would be adverse impacts to historic resources that should be mitigated. Included in these adverse impacts are the demolition of Newhouse, Pritchard, and the Press Houses. Mitigation funding should be included in both the design and construction phases to mitigate the adverse impacts. Should the public lose significant historic properties, the public should be adequately compensated for their losses through a combination of tangible and intangible interpretation, documentation, and planning through robust and meaningful community engagement. While the mitigation products have not been negotiated, we look forward to our continued consultation with DES regarding the development of a Memorandum of Understanding (MOU) with participation from all interested stakeholders.

Concluding Thoughts

As with any major capital project on the Capitol Campus in Olympia, the State of Washington has a tremendous opportunity to set an example and lead in the discussion on climate change. We also have tremendous opportunities to lead by example in promoting social equity through empowering the workforce by way of labor-intensive building retrofits, and promoting built heritage by prioritizing whole building recycling. We would appreciate the opportunity to continue our engagement with DES, so that we faithfully and collaboratively promote our shared goals of addressing climate change across the Enterprise.

Thank you for the opportunity to review and comment. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. If you have any questions, please feel free to contact me at (360) 628-2170 or nicholas.vann@dahp.wa.gov.

Sincerely,

Nicholas Vann, AIA
Deputy State Historic Preservation Officer

cc: Marygrace Goddu, City of Olympia
Maya Foty, ARG
Jennifer Masterson, OFM
Cara McClarty, DES
Majid Jamali, DES

LEGISLATIVE CAMPUS MODERNIZATION (LCM)
PROJECT DELIVERY SELECTION WORKSHOP SUMMARY

Workshop Summary

Project Name	Legislative Campus Modernization (LCM)
Workshop Date	8/13/2020, 8/26/2020, 10/1/20
Workshop Location	Zoom
Facilitator	Walter Schacht
Method Selected	GC/CM

Workshop Participants

Name	Email
Kelci Karl-Robinson	kelci.karl-robinson@leg.wa.gov
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Walter Schacht	walters@mithun.com
Shazi Tharian	shazit@mithun.com

PROJECT DELIVERY SELECTION MATRIX

OVERVIEW

This document provides a formal approach for selecting project delivery methods for projects. Its primary objectives are:

- Present a structured approach to assist agencies in making project delivery decisions;
- Assist agencies in determining if there is a dominant or optimal choice of a delivery method; and
- Provide documentation of the selection decision.

Design-Bid-Build (DBB)
is the traditional project delivery method in which an agency designs, or retains a designer to furnish complete design services, and then advertises and awards a separate construction contract based on the designer's completed construction documents. In DBB, the agency "owns" the details of design during construction and as a result, is responsible for the cost of any errors or omissions encountered in construction.

Design-Build (DB)
is a project delivery method in which the agency procures both design and construction services in the same contract from a single, legal entity referred to as the design-builder. The method uses Request for Qualifications (RFQ)/Request for Proposals (RFP) procedures rather than the DBB Invitation for Bids procedures. The design-builder is responsible for the details of design and the cost of any errors or omissions encountered in construction.

General Contractor/Construction Manager (GC/CM)
is a project delivery method in which the agency contracts separately with a designer and a construction manager. The agency can perform design or contract with an engineering firm to provide a facility design. The agency selects a construction manager to perform construction management services and construction works. The significant characteristic of this delivery method is a contract between an agency and a construction manager who will be at risk for the final cost and time of construction. Construction industry/contractor input into the design and constructability of complex and innovative projects are the major reasons an agency would select the GC/CM method. Unlike DBB, GC/CM brings the builder into the design process at a stage where definitive input can have a positive impact on the project.

POTENTIAL BIAS

The best approach for the participants of the workshop is to keep an open mind about the delivery method to choose. However, there might be participants that have a preconceived notion about the delivery method to use on a project. When this occurs, it is best to discuss that person's ideas with the entire selection team at the beginning of the workshop. Putting that person's ideas on the table helps others to understand the choice that person has in mind.

PRE-WORKSHOP TASKS

Preparing for the workshop prior to conducting it will result in a much more concise and informative session. It is advised that participants review all known project information, goals, risks, and constraints prior to the workshop. The best approach is to complete the *Project Delivery Description*, the *Project Delivery Goals*, and the *Project Delivery Constraints* worksheets before conducting the workshop. Completing the worksheets will shorten the time needed to review the project and allows the workshop team to move right into the selection process.

PROJECT DELIVERY SELECTION PROCESS

The process is shown in the outline below and a flowchart on the next page. It consists of individual steps to complete the entire process. The steps should be followed in sequential order.

STAGE I - PROJECT ATTRIBUTES, GOALS, AND CONSTRAINTS

A. Delivery methods to consider
   1. Design-Bid-Build
   2. Design-Build
   3. Construction Manager / General Contractor

B. Project Description/Goals/Constraints
   1. Project attributes
   2. Set project goals
   3. Determine and review project dependent constraints

STAGE II – PRIMARY FACTOR EVALUATION

A. Assess the primary factors (these factors most often determine the selection).
   1. Delivery Schedule
   2. Complexity & Innovation
   3. Level of Design
   4. Cost

B. If the primary factors indicate there is a clear choice of the delivery method, then:
   5. Perform an initial risk assessment for the desired delivery method to ensure that risks can be properly allocated and managed, and

STAGE III – SECONDARY FACTOR EVALUATION

A. Perform a pass/fail analysis of the secondary factors to ensure that they are not relevant to the decision.
   6. Staff Experience/Availability (Agency)
   7. Level of Oversight and Control
   8. Competition and Contractor Experience

B. If steps B, C & D do not result in clear determination of the method of delivery then perform a more rigorous evaluation of all eight factors against the three potential methods of delivery (DBB, DB and GC/CM).

Typically, the entire selection process can be completed by the project team in a three- hour workshop session, as long as each team member has individually reviewed and performed the assessment prior to the workshop.

PROJECT DELIVERY DESCRIPTION

The following items should be considered in describing the specific project. Other items can be added to the bottom of the form if they influence the project delivery decision. Relevant documents can be added as appendices to the final summary report.

Project Attributes

Project Name:
Legislative Campus Modernization (LCM)

Location:
Olympia, WA

Estimated Budget:
99M

Estimated Project Delivery Period:
2021-2026

Required Delivery Date (if applicable):
N/A

Source(s) of Project Funding:
State Funds

Major Schedule Milestones:
Desire to procure design solution by February 1, 2021

Major Project Stakeholders:
Senate, House, Leg Agencies, DES

Major Obstacles (as applicable)

Right of Way, Utilities, and/or Environmental Approvals:
SEPA, Vacation of Columbia St SW

During Construction Phase:
Building on an occupied campus, parking shortfall, temporary facilities, bad soils, construction of steep hillside

Main Identified Sources of Risk:

Safety Issues:
Building on an occupied campus

Sustainable Design and Construction Requirements:
Net-Zero Ready, LEED V.4, Energy Performance Guarantee

PROJECT DELIVERY GOALS

An understanding of project goals is essential to selecting an appropriate project delivery method. Therefore, project goals should be set prior to using the project delivery selection matrix. Typically, the project goals can be defined in three to five items and need to be reviewed here. Example goals are provided below, but the report should include project-specific goals. These goals should remain consistent over the life of the project.

Project-Specific Goals

Goal 1: Meet Performance Targets

- Meet functional needs for House, Senate, Leg Agencies and other identified programs

Goal 2: Collaborative Process

- Integrated design/construction/agency team – collaborative process

Goal 3: Quality Building that Fits Campus

- Fit campus design environment
- Provide a high-quality design and construction constraints
- Provide an aesthetically pleasing project

Goal 4: Optimize Budget

- On time/on budget
- Minimize project cost
- Maximize project budget
- Complete the project on budget
- Maximize the project scope and improvements within the project budget
- Transparency of cost by building and/or sub project

Goal 5: Building for Occupant Health and Success

- Provide health and wellness for building occupants – eliminate existing deficiencies, provide adequate space, security, working environments

PROJECT EVALUATION CRITERIA

Schedule

The Proviso has a design solution procurement date of February 1, 2021. A goal of the project minimizes project delivery time and to start construction on the Newhouse building first.

- DBB would have the longest project schedule as design and complete documentation are required before the project can be bid, and a contractor selected.
- GC/CM and DB will benefit the schedule over DBB with the potential to start construction earlier by procuring long-lead items in early bid packages allowing for some overlap in design and construction phases gaining efficiencies in the overall schedule by starting construction earlier.
- In order the maximize the benefit of DB construction funding needs to be appropriated early enough in the process to take full advantage of having an early price set and expedite procurement and construction.

DBB	DB	GC/CM
PROS		
• Linear design and construction schedule are predictable • Milestones are easy to define • More time to communicate/discuss design with stakeholders	• Contractor input on schedule, staging, phasing may reduce overall schedule • Expedite ordering of long lead items	• Contractor input on schedule, staging, phasing may reduce overall schedule • Expedite ordering of long lead items • More time to communicate/discuss design with stakeholders

CONS		
• Impact to schedule of low bid subcontracts • Errors in design lead to change orders and schedule delays	• To benefit from early staging, site mobilization and procurement of early bid packages, the construction funding needs to be available prior to completion of design • Less time to communicate/discuss design with stakeholders	• Potential for OAC disagreements

<u>Quality</u>

The project aims to meet or exceed project requirements and selecting the best team is an important strategy to achieve this.

- DBB allows for the owner to select the Architect/Engineering (A/E) team through a qualifications-based process. It does not allow for the selection of the contractor, as the project is bid competitively, and the lowest cost wins the bid. In a busy marketplace where contractor/sub-contractor availability is scarce, this increases risks associated with contractors' lack of qualifications.
- DB and GC/CM will both attract more sophisticated contractors.
- DB does not allow the owner to select the contractor and architect individually. The owner will have to make a choice based on the predetermined teams who submit on the project. This does not always result in the best contractor and architect and since the architect is a sub-contractor to the contractor there could be some conflicts of interest that arise.
- GC/CM allows for the owner to select the architect and contractor who they think is best qualified for the job independent of the other. This give the owner the most flexibility in getting the team that they think would meet their needs the best.

DBB	**DB**	**GC/CM**
PROS		
• Owner and designer control design • Promotes high level of competition in the marketplace, especially in neutral to slow markets	• Independent selection of most qualified team for designer-builder • Increased opportunity for innovation with contractor on team • Tends to attract more sophisticated contractors	• Independent selection of most qualified designer and contractor • Agency has control over an independent selection of best qualified designer & contractor • Increased opportunity for innovation with contractor on team • Tends to attract more sophisticated contractors
CONS		
• Lowest cost is primary GC selection factor • Qualifications consideration is very limited • Low level of competition and sub-contractor availability in busy markets may result in it not being the lowest cost delivery method	• Need for qualifications can limit competition	• Working with only one contractor to develop GMP can limit price competition • Low level of marketplace experience

Functional/Technical Complexity
The proviso sets high targets for energy performance. It needs to hit an EUI of less than 35, be net-zero ready, and provide an energy performance guarantee. Both buildings are prominent buildings in the heart of a historical campus and maximizing the life cycle performance of the project in integral to their longevity.

Phased construction on an occupied campus has it challenges related to schedule, coordination, safety and access.

- GC/CM and DB have a clear advantage over DBB in that the construction manager is part of the integrated team during the design allowing for input on mitigating risk and cost factors, site logistics and staging and phasing.
- Both the GC/CM and DB process allow for the owner, architect and contractor team to approach solving complex design and logistic challenges collaboratively to reach the most cost-effective solution. Both GC/CM and DB can provide continuous contractor input on cost and constructability.
- On this site there is the added complexity of building on a steep slope with the possible need to restore a historic building on the Pritchard site. The contractor can help manage risk by managing contingencies related to unexpected construction costs.
- DB can involve more risk with complicated SEPA determination/impacts, and latent conditions expected with the sites as the early cost may not include some of the impacts discovered through the permitting and design process. The Owner will need to carry contingencies outside of the construction costs to cover any potential impacts.
- GC/CM does not allow for an energy performance guarantee to be provide by the contractor; however, the owner can perform a post-occupancy energy audit to verify that the actual building performance meets the energy design target. This would satisfy the intent of the energy performance mandate.
- Given all the pending changes to RCW 39.10.385 which allows for the GC/CM to select major subcontractors such as electrical and mechanical contractors as well as other major subs in the design phase the GC/CM has many of the benefits that a DB would have. The trade packages are still competitively bid which ensures cost competition.

DBB	**DB**	**GC/CM**
PROS		
• Owner and consultant expertise select innovation independently of contractor abilities • More time to understand SEPA, latent conditions etc.	• Opportunities for OAC collaboration, integrated design solutions • Continuous constructability input • Contractor input on identifying inherent risks to innovation	• Opportunities for OAC collaboration, integrated design solutions • Continuous constructability input • Contractor input on identifying inherent risks to innovation • Can select major sub-contractors to assist and provide input in design phase
CONS		
• No contractor input on cost or feasibility • No opportunities for integrated design and construction solutions • General contractor may not be qualified to deal with project complexity • Does not allow for energy performance guarantee	• Requires desired solutions to complex designs to be well defined through technical requirements (difficult to do) • Quality assurance for innovation process are difficult to define in RFP	• Preconstruction services fees for contractor involvement • Does not allow for energy performance guarantee, however, the owner can perform a post-occupancy energy audit to verify that the actual building performance meets the energy design target

Stakeholder Involvement and Design Definition

There are multiple stakeholders whose involvement in the design process is key; Members and leg agencies as well as the users, DES which has multiple entities who need to provide input on maintenance, security, parking, and other facilities and management issues.

- DBB gives the owner full control over a linear design and construction process.
- DB gives less control over design once the construction cost has been set and requires a higher level of design and quality assurance oversight to ensure that RFP requirements are met. If the RFP is not clear in defining the requirements that is potential for lacking or missing scope and the Owner can have less control over the design. Cost and scope are often set early in the design phase typically at 30% which gives the owner less flexibility in defining the details and making changes. This puts a lot of pressure on the owner to expedite decision making.
- GC/CM allows the Owner to have control over the design as they do in DBB, with the added benefit of continuous constructability input from the construction manager. It also allows more time for Owner decision-making/stakeholder involvement.
- With GC/CM procurement since the project is bid at 95% construction documents the owner has the flexibility to make changes and better define the design before they receive the price. This allows the owner more control of the details of the project

DBB	**DB**	**GC/CM**
PROS		
• Maximum control over a linear design and construction process • Oversight roles are well understood	• A single entity is responsible for design and construction phases	• Most Agency control over both design and construction • Most Agency control over a collaborative OAC integrated team • Enhance constructability and innovation with contractor's preconstruction services
CONS		
• Requires a high level of oversight • Increased chance of claims due to Agency design responsibility • No opportunity for integrated design/ construction process	• Requires a high level of oversight to ensure that RFP requirements are met • Less agency control over design • Control over design relies on proper development of technical requirements	• Experienced Agency staff to oversee the GC/CM • Higher level of cost oversight required

Agency Comfort/Confidence in Delivery Method

- DBB is the most familiar procurement method at DES. Recently DB and GC/CM have been gaining favor as procurement methods due to the increasing complexity of highly energy efficient buildings on complex campuses and the competitive bid environment which makes qualified contractors unlikely to bid on DBB projects.
- Strong agency project management is important to the success of the GC/CM process.
- Resource needs are similar between DBB and GC/CM except that in GC/CM the agency must coordinate the construction managers input with the design team and negotiate the GMP.
- GC/CM allows the Owner an off-ramp prior to construction if they are not satisfied with the price they receive, and they can open the project to be bid by multiple contractors. The off-ramp for DB is more complicated

DBB	**DB**	**GC/CM**
PROS		
• DES has high level of experience		• Resource needs are similar to DBB

CONS		
• The complexity and coordination of multiple projects on an occupied campus would put a lot of pressure on DES management	• Existing staff may have limited experience with DB • Agency has less experience with DB - additional training may be required	• Agency needs to be able to negotiate GMP contracts.

PROJECT DELIVERY CONSTRAINTS

There are potential aspects of a project that can eliminate the need to evaluate one or more of the possible delivery methods. A list of general constraints can be found below the table and should be referred to after completing this worksheet. The first section below is for general constraints and the second section is for constraints specifically tied to project delivery selection.

General Constraints

Source of Funding:

- State of Washington General Obligation Bonds

Schedule constraints:

- The Proviso has a design solution procurement date of February 1, 2021
- Newhouse building construction is to start first
- Building move-in to be coordinated with legislative sessions

Federal, state, and local laws:

- City of Olympia Land Use Code
- State Environmental Protection Act (SEPA)
- International Building Code (IBC)
- Executive order 20-01 State Efficiency and Environmental Performance
- RCW 39.35D LEED Silver Standard
- RCW 70.234.070 Reduce greenhouse gas emissions
- RCW 39.04 record keeping, filing and cost estimating, contracts and project decisions
- RCW 43.19 Control of Capitol buildings and grounds by DES
- RCW 43.34 Capitol Campus Design Advisory Committee Reviews
- RCW 43.82 Predesign requirement
- WAC 200-020 RCW 43.17.070 State Capitol Committee approval requirements
- RCW 43.88.0301 Questions to be answered in predesign
- RCW 90.58 Shoreline Management Act of 1971

Third party agreements

N/A

Project Delivery Specific Constraints

Project delivery constraint 1: Funding

- Funding for design is already allocated
- Each project is funded separately in the proviso
- Proviso provides flexibility
- Construction funding not yet allocated

Project delivery constraint 2: Multiple Projects

- Demo, temporary facilities, O'Brien, parking lots – could go DBB as discreet projects
- Newhouse
- Pritchard

Project delivery constraint 3: Agency Management of Project

- One team or many?
- Team organization structure?

Project delivery constraint 4: Evaluation Criteria

- Different for each project
- Impacts on campus similar

Project delivery constraint 5: Project Sequencing

- Project phasing necessary to minimize disruption on campus

PROJECT CONSTRAINTS

Funding

Funding for design is already allocated but construction funding has yet to be allocated. In order to maximize the benefits of DB and GC/CM construction funding should be available soon after the design starts so that the contractor can mobilize and start early site prep and demolition as well as procuring early bid packages.

Since each project is funded separately in the proviso procurement method can vary by project and will need to work with the timeline of the funding.

Multiple Projects

The project should be thought of in terms of project size and complexity for evaluating choice of procurement method. The larger projects will have greater complexity and impacts on the campus and will need a more experience Owner management team, contractor and designer for which GC/CM may be the better choice whereas the minor project could save costs by staying with traditional DBB approach.

- Major projects
  - Newhouse
  - Pritchard
- Minor projects
  - Temp facilities
  - Parking
  - O'Brien remodel
  - Press Houses

Agency Management of Project

The scale and complexity of the projects vary and will have different challenges and opportunities to consider in selection of delivery method.

- DES has a high level of experience with DBB delivery, but the scale and complexity of the major projects could prove challenging for most contractors who would choose to bid on the projects. The minor projects would be better suited to DBB procurement.
- Less agency staff are required to manage a DB contractor due to the sole source nature of the procurement method, however limited availability of staff with skills, knowledge and personality to manage DB projects would be a challenge.
- GC/CM allows for smaller number of technical experts to be on the project by leveraging the expertise of the consultant designer.
- In selecting the procurement method agency management should also be considered:
  - Should One team manage the entire project, or should the major and minor projects have different teams?
  - The number of DES staff required to manage the projects and structure of project management teams will vary on whether it is a major or minor project
  - Depending on the procurement method selected for the projects specialized expertise may be required
  - Design/team contractor capacity (focus)
  - Diversity
  - Potential for construction management services
  - DES PM Organization
- Possible structure for Project Management team was discussed:
  - Senior PM
    - Newhouse PM
    - Pritchard PM
    - Small projects PM

Evaluation Criteria

Each project has different evaluation criteria due to site constraints, scale and complexity of project, and number of people on campus impacted by it.

- With DBB risks related to environmental & third-party involvement best resolved before procurement and utilities and ROW best allocated to the agency and mostly addressed prior to procurement to minimize potential for claim. GC/CM allows for the contractor to have a better understanding and can help manage the risk though the Agency still has considerable involvement with managing the risk and holding contingencies to address them. DB has limited time to resolve risks related to third party issues since the price is set early in the design. The Owner needs to manage the risk of late developments and retain contingencies to address this.
- Depending on the scale and complexity of project different procurement methods may be appropriate for each project. Newhouse and the Pritchard buildings being the major projects requiring experienced management staff and contractor and design teams, GC/CM and DB may be more appropriate, whereas the minor projects could be more effectively managed as DBB projects.
- The larger projects require more complex phasing that would benefit from early involvement and input from the contractor whereas the minor projects could optimize costs by being bid as DBB.

Project Sequencing

Multiple buildings and sites on campus will be impacted by this project. In order to minimize the disruption on campus projects will need to be phased to minimize impacts on parking supply, traffic flow, and noise and dust caused by the construction process.

- Unlike DBB, GC/CM and DB allow for contractor input on phasing and construction logistics and constructability which may reduce the overall schedule.
- Unlike DB, GC/CM and DB both allow for start of construction before the entire design is complete. This will help optimize the schedule by starting things like demolition, temporary facilities construction and procurement of long lead items prior to completion of the design.
- GC/CM and DB can identify and resolve design and construction issues related to building on an active campus on multiple sites.
- DB would not be able to take advantage of schedule until the construction funding is released.

PROJECT DELIVERY SELECTION SUMMARY

Determine the factors that should be considered in the project delivery selection, discuss the opportunities and obstacles related to each factor, and document the discussion on the following pages. Then complete the summary below.

NEWHOUSE & PRITCHARD	DBB	DB	GC/CM
PRIMARY FACTORS			
1. Delivery Schedule	-	++	++
2. Project Complexity & Innovation	-	++	++
3. Level of Design	++	+	++
4. Cost	+	+	++
5. Perform Initial Risk Assessment	-	++	++
SECONDARY FACTORS			
6. Agency Staff Experience/Availability	++	++	++
7. Level of Oversight and Control	+	+	++
8. Competition / Contractor Experience	++	++	++
TOTAL	8	13	16

Energy Performance Guarantee – Not enforcible with GCCM or DBB

Owner can choose to perform an indepent energy audit to confirm energy useage post occupancy

O'Brien	DBB	DB	GC/CM
PRIMARY FACTORS			
1. Delivery Schedule	+	++	++
2. Project Complexity & Innovation	+	+	++
3. Level of Design	++	+	++
4. Cost	+	++	++
5. Perform Initial Risk Assessment	-	+	++
SECONDARY FACTORS			
6. Agency Staff Experience/Availability	++	++	++
7. Level of Oversight and Control	+	+	++
8. Competition / Contractor Experience	++	++	++
TOTAL	10	12	16

Rating Key

++	Most appropriate delivery method
+	Appropriate delivery method
–	Least appropriate delivery method
X	Fatal Flaw (discontinue evaluation of this method)
NA	Factor not applicable or not relevant to the selection

PROJECT DELIVERY SELECTION SUMMARY CONCLUSIONS AND COMMENTS

This memo is intended to provide the Legislative Campus Modernization (LCM) a project delivery method recommendation for the predesign for the three buildings that are part of the project. A risk evaluation was performed on delivery methods over the course of two months and included three meetings. The delivery methods discussed were Design Bid Build (DBB), Design Build (DB), and General Contactor/Constrution Manager (GC/CM).

GC/CM is recommended for this project due to its benefits over DBB and DB when considering the goals of the project. The evaluation criteria that were considered most important to the LCM include: Level of oversight and control, Complexity, Level of Design, Risk, and Cost.

The LCM's complexity is in part due the construction of multiple projects phased over many years in the center of an occupied campus with concerns about security, access, parking and noise disruptions. GC/CM will allow for contractor input on phasing, staging and development of the project general conditions to ensure concerns are addressed in the bid documents.

The site for developing the Pritchard project on the edge of a steep bluff which includes unstable soils and demolition of a historic building adds additional site development challenges. Additional complexity is added due to the requirement for Net Zero Energy (NZE) requirements.

GC/CM was also selected due to the diverse group of stakholders involved in the project to allow for the owner to have more control over the outcome of the project. GC/CM will allow the owner to control the decision making project while still getting cost and schedule input from the contractor. The concern with going with DB was that the owner will have to commit to a cost for the project before all decisions were made and would lead to compomises on quality and or scope to stay within the contract amount.

Going with a GC/CM delivery method will allow the owner to choose both the the design and contractor that they think is most capable of addressing the various complexities of the program and site.

STATE CAPITOL COMMITTEE
Remote Access Meeting
Olympia, Washington 98504

October 15, 2020
10:00 AM

Final Minutes

MEMBERS PARTICIPATING:
Kim Wyman, Secretary of State
Katy Taylor (for Hilary Franz, Commissioner of Public Lands)
Kelly Wicker, Governor's Designee
Kristina Brown (for Lt. Governor Cyrus Habib)

OTHERS PARTICIPATING:
Damien Bernard, Department of Enterprise Services
Kevin Dragon, Department of Enterprise Services
Bill Frare, Department of Enterprise Services
Valerie Gow, Puget Sound Meeting Services
Majid Jamali, Department of Enterprise Services
Hamed Khalili, Department of Enterprise Services
MariJane Kirk, Department of Enterprise Services
Allison Krutsing, Department of Children, Youth and Families
Ann Larson, Department of Enterprise Services
Nouk Leap, Department of Enterprise Services
Chris Liu, Department of Enterprise Services
Annette Meyer, Department of Enterprise Services
Jon Noski, Office of the Insurance Commissioner
Walter Schacht, Mithun Architects
Oliver Wu, Department of Enterprise Services
Ted Yoder, Department of Enterprise Services

Welcome and Introductions & Approval of Agenda
Secretary Kim Wyman serving as Chair called the regular State Capitol Committee (SCC) virtual meeting to order at 10:03 a.m.

Members and staff provided self-introduction. A meeting quorum was attained.

Secretary Wyman reviewed the agenda and described the format of the virtual meeting.

Approval of Meeting Minutes for December 12, 2019 and August 10, 2020 - *Action*
Kelly Wicker moved, seconded by Secretary Wyman, to approve the December 12, 2019 and the August 10, 2020 minutes as published. Motion carried unanimously.

SCC Work Group Charter – Informational

Secretary Wyman introduced Bill Frare, Department of Enterprise Services (DES) Assistant Director of Facilities Professional Services, to review a proposed charter for a work group to review statutes governing the SCC and the Capitol Campus Design Advisory Committee (CCDAC).

Assistant Director Frare reported during the August 10, 2020 special meeting of the SCC, DES was directed to convene a work group to review statutes governing SCC and CCDAC. A draft charter was forwarded earlier to members. The scope of the work group would review statutes, identify statues for potential amendments, consider a common vision for the campus, review current challenges and needs on the campus, and discuss each committee's oversight and involvement during each phase of a project. It is also important to obtain feedback by each committee on the placement of a number of monuments and memorials proposed for the campus. Staff is soliciting opinions and the level of involvement by the committee on landscaping and potential view sightline changes to protect the historical and cultural characteristics of the campus. Additionally, DES is seeking a better understanding of the direct connection between the activities of the SCC and the Legislature on funding projects, as well as ensuring projects of importance to DES are as important to the Legislature. The committee will be involved in drafting revisions and updates to the RCW and any Washington Administrative Code (WAC) that may need changes to support the recommendations by the SCC.

Assistant Director Frare reviewed the proposed membership of the Work Group. Membership of the Work Group as proposed would include designees from SCC, House, Senate, Governor's Office, Secretary of State Office (SOS), Department of Natural Resources, Lt. Governor's Office, Office of Financial Management (OFM), Department of Archeology and Historic Preservation, Office of the Attorney General (OAG), CCDAC, and two representatives from DES. Staff proposes designating a Work Group facilitator.

A Steering Committee would provide oversight and feedback to the Work Group. Proposed membership of the Steering Committee includes members from the SCC and legislative designees, DES Deputy Director, and a representative from OFM.

Assistant Director Frare reported he met previously with each member to review the proposal. The SCC is requested to approve the proposal or refer the proposal to the next meeting if additional time is required to consider any changes.

Secretary Wyman paused the meeting to enable members, staff, and citizens to participate in the Great Washington Shake Out Drill. She cited information on the Shakeout available at www.shakeout.org explaining protective actions to take during an earthquake.

Ms. Taylor advised that the designee from the Department of Natural Resources might be another individual.

Ms. Brown asked whether it is possible to change designees throughout the meeting process. Assistant Director Frare advised that for consistency, the designee should **be** the same individual as conversations will evolve during the meetings. Additionally, some foundational work is necessary at the onset to ensure all members are current on issues prior to rendering any recommendations.

Kelly Wicker moved, seconded by Katy Taylor, to approve the SCC Statute Review Work Group Charter as presented. Motion carried unanimously.

Insurance Commissioner Office Building Predesign – *Informational*

Secretary Wyman invited Assistant Director Frare to introduce staff and the project.

Assistant Director Frare reported the 2019 Capital Budget directed DES to prepare a predesign to consolidate the Office of the Insurance Commissioner (OIC) on Capitol Campus and consider three specific locations. The 2020 Supplemental Capitol Budget amended the proviso to include the Department of Children, Youth and Families (DCYF). Representatives from both agencies are present to answer questions from the committee. In accordance with the procedures adopted during the August 10, 2020 special meeting, the presentation is informational only with action requested by the committee at its December meeting to approve the predesign recommendations. The predesign was presented to CCDAC at its September meeting. Following a motion to approve the predesign recommendations, several questions resulted in tabling the motion. DES staff has been working with CCDAC members to answer the questions with the intent to request CCDAC approve the predesign recommendations during its November meeting.

Assistant Director Frare introduced Majid Jamali, DES Project Manager.

Project Manager Jamali reported the initial proviso was to study an office building for the OIC, which was amended by the 2020 Supplemental Capital Budget to add DCYF. The budget proviso required a space needs assessment and cost estimates necessary to house OIC and DCYF on Capitol Campus and evaluate three opportunity sites:

Site 1 – General Administration (GA) Building
Site 6B – Visitor Center
Site 12 – Pro Arts Building

The predesign was directed to consider programmatic spaces requirements for OIC and DCYF, parking impacts of new office space construction, a high-performance, net-zero building having a EUI of 35 or less, and using cross-laminated timber products. The needs assessment identified a program to consolidate office in a new 209,000 gross square foot building on the GA site increasing the space use efficiency by 63%. The total project budget is estimated to be \$251 million, which includes \$75.2 million for an off-site parking facility. Funding would be through a Certificate of Participation (COP) with a 30-year payback.

The proposed project would create a showcase for the state’s commitment to the mass timber industry and produce a net-zero ready building approximately 2 times more energy efficient than a typical office building. The proposal supports development of a campus-wide net-zero energy implementation strategy.

Project Manager Jamali introduced Walter Schacht with Mithun Architects to review the program and predesign findings.

Mr. Schacht reviewed details of the analysis for the program. The OIC is currently housed in three sites impacting the efficiency and communication between OIC departments. Consolidating the offices will reduce travel and lease costs. The existing spaces are insufficiently sized to accommodate predicted agency growth over the next 10 years. Existing spaces do not align with the guidelines OFM or 2016 Executive Order 16-07 for high level efficiency and collaboration in a contemporary workplace. New facilities would improve the workflow.

DCYF is currently located in numerous locations. One location would enable the agency to serve its mission much more effectively and provide space needed for growth and align with best practices for a contemporary workplace.

Today, existing space occupied by both agencies is larger than the projected amount of space required for the next 10 years in a new building. The new building is 50,000 square feet less than existing space and would accommodate growth of 179 FTEs in the next 10 years. The proposal represents a 30% reduction in space use based on state guidelines and by the work of the two agencies to share resources. The current number of FTEs today for both agencies total 950 with projected staff of 1,100 FTEs. The proposal reduces square footage from 250,500 to 209,000 gross square feet resulting in the allocation of fewer square feet per employee.

Three sites were analyzed as designated in the State Capital Budget. The determination for selecting Opportunity Site 1 was capacity because it was the only site that could accommodate the program requiring 209,000 gross square feet and meet all other height requirements outlined in the State Capital Master Plan. Parking was part of the study, as well as in-house discussions with DES to evaluate potential parking sites across the campus and properties adjacent to the GA site. The initial study was followed up with additional work in concert with DES that included a traffic analysis by a consultant, which determined a target of 612 to 740 parking stalls based on the assumption that 20% of the workforce would telecommute. All sites were reviewed based on the demand, as well as the proximity to the proposed building site. The team determined the Pro Arts site would be the best solution for providing parking capacity. Additional analysis will be completed if the project moves forward. However, in working with DES, a conservative estimate for parking was identified for the budget.

The preferred alternative site aligns with the south façade of the Helen Sommers Building both in location adjacent to the Great Lawn, as well as to the height on the south side. Similar to the Helen Sommers Building, the proposed building faces the campus the south side with the urban face oriented towards Olympia on the north side. The building plan is located within the existing footprint of the GA Building with a north and south wing and a central connector housing restrooms, stairs, and elevators. The building maximizes daylight, views, natural ventilation, and green space. The proposal incorporates the use of mass timber for the entire structure of the building, maintains setbacks from the adjacent hillside and existing underground utilities, and maximizes on-site parking.

The analysis was compared to the 2017 State Capitol Development Study, which the SCC adopted as part of the State Capitol Master Plan. The study identified the maximum building capacity of the GA Building site as 274,750 square feet. The guidelines of the State Capitol Master Plan identified a seven-story building on the site. The analysis recommends a smaller building to achieve better scale as the study identified the maximum capacity rather than the ideal use of the site. The building's four-story massing of the south wing aligns with cornice line of the Helens Sommers Building and the six-story massing of the north wing relates to downtown Olympia. The average building height is approximately 70 feet to ensure is does not exceed the scale of the O'Brien and Cherberg Buildings.

Mr. Schacht shared an illustration of a three-dimensional aerial illustration reflecting massing of the building and alignment with surrounding buildings and the Great Lawn. Offices are oriented to maximize solar access. The entry level includes a public lobby, café, and shared restrooms and elevators in the middle of the building. Employee work stations are located along the wall on the north and south facades and closed spaces and some offices are located in the middle of the building to maximize daylight access and to improve the ability of the building to reduce its energy use intensity.

The predesign utilizes mass timber or cross laminated timber (CLT). Mr. Schacht cited an image of the Bullitt Center in Seattle, one of the most energy efficient buildings in the world. The building features products from Washington State. The proposed building is envisioned to use and expose materials as part of the project. The Capital Budget targeted the building with a EUI of less than 35. The building's high-performance exterior envelope and mechanical and electrical systems provide for a net-zero ready facility with a EUI of 18. Having a mass timber building on the campus would be a great way to promote the state's industry and its commitment to wood products with the potential for invigorating the economy of some communities in the state that have struggled for several decades in light decisions surrounding the spotted owl and other species.

An initial layout of parking was completed on the Pro Arts site. The proposed garage provides more parking than the projected capacity requires. The garage would not impact the Dan Evans Tree as Centennial Park located on the north side of the block would be retained as part of the development.

Project Manager Jamali introduced Jon Noski, Legislative Liaison for the OIC, and Allison Krutsing, Deputy Director, Government Affairs, DCYF.

Mr. Noski acknowledged the excellent presentations for accurately describing the project. The project is a high priority for OIC and for Commissioner Kreidler for reasons the presentation highlighted. The project presents an exciting opportunity as the project consolidates existing agency offices in eight separate locations into one building that is centrally located on Capitol Campus. The CLT components of the building is exciting for the OIC, as the building will significantly improve West Campus by replacing a deteriorating vacant GA Building, which the City of Olympia has determined is unfit for occupancy. In addition to showcasing CLT capabilities on the campus, it should be emphasized that the project is an exciting opportunity to promote rural economic revitalization by supporting timber manufacturing technologies that makes the proposal an important investment for the state. The design will improve work productivity and reduce the state's carbon footprint while factoring in the future benefits of bolstered teleworking capabilities. Furthermore, the project's demolition of the GA Building and the construction of a new building create economic stimulus for industries suffering from lack of work because of the COVID-19 slowdown in the state. The project consolidates work spaces and gains efficiencies and will further the Governor's climate initiatives by developing a world class energy efficient building and using CLT technology that will showcase environmentally-friendly technology, support jobs in rural Washington, and contribute to the sustainable forest management of struggling forests throughout the state.

Ms. Krutsing said the proposal aligns with DCYF as DCYF inherited a number of buildings which has created logistical challenges for operations at headquarters for technology access, service limitations, as well as not being in the same space. A fully located headquarters building remains a priority of the agency as the agency wants to bring all operations under one roof. The agency also recognizes today's reality and has learned from the impacts of COVID-19. The agency was able to reduce its footprint by 30%. The agency remains committed to the idea of having one co-located space on Capitol Campus for headquarters that align with the agency's mission while increasing productivity and collaboration across the agency.

Secretary Wyman questioned the difference in lifespan between a wood building versus the Helen Sommers Building. Mr. Schacht replied that there is no discernible difference between the different types of buildings. The building would be constructed to contemporary structural standards. In terms of resistance to events such as earthquakes, the building would perform better as the code was recently updated. The materials for the exterior envelope are projected to be curtain wall and precast concrete. The quality of the exterior materials and resistance to weather would be similar as any other contemporary building on the campus. The building would last indefinitely with an average 40-year lifespan for mechanical and electrical systems. The proposal represents a permanent investment for the campus.

Mr. Noski said he understands that the key factor for the longevity of timber structures is the management of moisture during the design stage. Many occupied buildings of timber construction in Europe are over 700 years old. It points to the importance of design and planning for a building. Commissioner Kreidler has been a life-long public servant for the state. The building will benefit not just current employees but the entire state moving forward as well. It is important to replace the GA Building with a building that structurally matches the integrity of the campus. The agency believes CLT is the appropriate material for the building.

Secretary Wyman shared that she has several questions that do not necessarily need answers at this time, but following the presentation to CCDAC, some of the same questions will be asked surrounding the parking component as capacity of 1,200 employees with 20% teleworking lends to some similar concerns she had with the Sommers Building where parking was addressed at the onset but deferred with the building constructed with a loss of parking spaces and more employees added to the campus without mitigating the parking issue. She stressed the importance of ensuring the parking facility remains at the forefront during design and questioned whether 20% of the employee base realistically represents 900 parking spaces and not 700 parking spaces. Adding 1,200 employees to the campus and not having the ability to move in and out of Olympia without causing an adverse impact on traffic and the ability to park is important. She anticipates the conversations will be similar with CDAC members. She asked why there was no consideration of the building at another location, such as the campus housing state office buildings in Tumwater rather than building to standards required on Capitol Campus. She questioned the stability of the hillside as the building will be of a substantial size. Her concerns surround the integrity of the hillside, water infiltration issues associated with the site, and whether those measures impact the cost of the project if additional shoring of the hillside should be required.

Assistant Director Frare acknowledged the importance of the questions and recommended deferring the answers until after the meeting to afford a more comprehensive conversation.

Ms. Brown asked about the timeline for completion of the predesign. Project Manager Jamali advised that the predesign was completed on August 25. Ms. Brown questioned whether the pandemic was factored as part of the proposal. Project Manager Jamali explained that the predesign was in the final stages when the pandemic occurred. Ms. Brown offered that the pandemic likely would impact the planning as the world of office buildings and workplaces has changed dramatically since the pandemic. She suggested those realities should be factored within the design. Mr. Schacht added that COVID-19 was factored as detailed programming was in progress through virtual meetings in response to COVID-19. Everyone understood the efficacy of the remote workplace as it is one of main reasons why the team was able to achieve efficiencies by reducing space to accommodate more employees. The team analyzed highly efficient contemporary workplace in which a significant component of the workforce would work from home or work in shifts with several days working in the office and the remaining time working remotely.

Mr. Noski affirmed his recollection of the discussions during predesign. OIC recognized and values the need to bolster teleworking capacities while ensuring the building meets energy efficiency requirements of the state and consolidates all offices into an efficient and effective building.

Ms. Wicker said she appreciates Secretary Wyman's concern about ensuring adequate parking space. She understands the occupants of the Helen Sommers Building lack adequate parking space. She asked whether the proposed building's parking facility would be shared for building occupants as opposed to a general purpose parking facility. In terms of the height of the parking facility, she questioned whether the height of the parking garage would have any impact to other state agency buildings.

Assistant Director Frare acknowledged the questions would be addressed as the project proceeds.

Legislative Campus Modernization (formerly Newhouse Predesign) – *Informational*
Secretary Wyman recognized Assistant Director Frare.

Assistant Director Frare reported the 2018 Supplemental Budget directed DES to prepare a predesign to replace the Newhouse Building and consider space needs for the House and Senate and other programs. Based on the Alternatives Analysis within the predesign, the Legislature amended the proviso and renamed the project as the Legislative Campus Modernization project. The proviso directed specific additional instructions on proceeding with predesign. The presentation is the SCC's first briefing with the SCC asked to approve recommendations at its December meeting. The predesign was presented to CCDAC in September as an informational item. It is anticipated the predesign will be completed and submitted to OFM on November 16, 2020 with CCDAC considering the recommendations prior to the SCC considering action in December.

Assistant Director Frare invited Project Manager Jamali and the consultant team to present the proposal.

Project Manager Jamali reported the 2020 Supplemental Budget included the Legislative Campus Modernization project that included the following main elements:

- Replace the Newhouse Building to support Senate offices and support functions with offices sized similar as the offices in the Cherberg Building and consider adding another floor in the new building.
- Replacement or renovation of the Pritchard Building to support House offices and support functions with additional space for legislative support agencies and other spaces required to support the agencies.
- Renovation of the third and fourth floor of the O'Brien Building
- Details on a temporary facility to support the project.
- A high-performance, net-zero ready building having a EUI of 35 or less
- No parking impacts.

Project Manager Jamali invited Mr. Schacht to outline the problem statement and review the proposed project.

Mr. Schacht described the Legislature's goals for the project. The Newhouse Building is a liability to the state and to the individuals who occupy the building. The building needs to be replaced. The existing building is two stories totaling approximately 25,000 square feet of space. In terms of replacement, the question is whether the site is appropriate in terms of relationship to the campus to replace the building with a new two-story building, which is much smaller and different than the historic group of buildings, and whether it would be the most efficient use of state dollars since there are needs that have been identified for other programmatic elements and other legislative support agencies that might benefit from operations located on the campus. In addition to replacing Newhouse, the team was asked to explore whether more square footage would be warranted to increase the efficiency of the building.

Currently, the House struggles with offices that are undersized with legislative staff working in public cramped spaces amid constant noise and congestion. The House is seeking to right size its offices. The team studied the O'Brien Building. In order for House offices to be comparable to Senate offices, it would entail allocating every three offices in the O'Brien Building and converting them to two offices to achieve a similar size and an appropriate relationship with support teams. To create such a set of legislative offices, the most likely place because of its proximity to House activities is either through an expansion and renovation of the Pritchard Building or entirely replacing the Pritchard Building. Renovation or replacement of the Pritchard Building would impact legislative agencies that should be located centrally on the campus to serve the functions of government. Additionally, replacement of the Newhouse Building will impact the Press Houses. The total square footage of the Press Houses is not reflected in the program total; however, the press must be accommodated to ensure they have the appropriate space as part of the project.

Both the Newhouse and Pritchard Buildings have significant structural liabilities as neither structure meets code and both are located on poor soils that would experience liquefaction during an earthquake. Because of the poor quality of soils, the structures require deep foundations, which both buildings lack. During a seismic event, the brick on the exterior doors of the Newhouse Building could break loose and block egress for occupants trying to leave the building during a seismic event. Stone cladding on the stacks of the Pritchard Building could fall any time posing another safety hazard. Additionally, mechanical and electrical system problems exist in both buildings.

The team explored several alternatives based on the program and condition of the buildings. Mr. Schacht displayed a map of the existing structures with required setbacks from streets or activity to ensure long-term security. The project included other partners, such as DES Security, Grounds and Maintenance, and representatives from the House and Senate. The team identified deficiencies that could be improved by the project. The team worked with City of Olympia staff to review traffic circulation, parking, and the relationship of the project to the South Capitol Neighborhood. Parking capacity was calculated to adhere to the proviso and to follow best practices guidelines to avoid any negative parking impact. Based on the evaluation of the Pritchard Building by geotechnical engineers, an area was identified that should exclude any type of structure given the steep slope and poor soils. If the Pritchard Building was constructed today, it would need to be moved east of the designated hazard area.

Based on expansion opportunities for the project to provide space for necessary functions in the core of the campus, the team evaluated both a three and four-story Newhouse replacement building.

Concurrently, identifying and understanding the challenges of renovating and adding to the Pritchard Building, the team considered those options as well as replacing the building. Option A.1 and Option A.2 both assume identifying a strategy to renovate and add on to the Pritchard Building by including a three-story office building in line of the existing stacks. Option B.1 includes a three-story Newhouse Building and Option B.2 is a four-story Newhouse Building replacement. The difference in all options is the disposition/replacement of the Pritchard Building.

Mr. Schacht reported the team spent time with the structural engineer and geotechnical engineer studying and identifying a strategy that would enable preservation of the Pritchard reading room as the stacks were deemed not worth preserving because they have a floor height that could not be occupied. The stacks are designed for storage of books rather than occupation by individuals. Based on that evaluation and the identification of the hillside hazard designated as the required 100-foot setback from the steep slope, the team hired a specialist in auger cast piles and building reinforcement. Together they developed a strategy for taking the roof off the Pritchard reading room and drilling micropiles under brace frames and adding a new secant pile retaining wall along the edge of the hillside slope. During the evaluation, the team learned that regardless of the amount of money invested in those improvements, the Pritchard reading room could never be upgraded to the point where it would meet current building code, and, during conversations with the Building Official from the City of Olympia to enable occupation of the reading room if it was improved to a specific level, egress from the office building could not rely on the entrance to the reading road because of the severity of potential collapse. The team determined that despite the strategy for reinforcing the hillside, it would be nearly impossible to place heavy equipment necessary for drilling auger cast piles without collapsing the hillside from the weight of the equipment. Because of practical reasons and the lack of a cost estimate, it was clear that it would be very expensive and the state would be investing intensely with no guarantee of a long term return on investment.

Subsequently and collectively with the team and all partners, the alternative selected is a three-story Pritchard replacement building. The ground floor of the new building is located east of the 100-foot setback.

Assistant Director Frare added that to maximize square footage, the upper floors would be cantilevered over the slope to maintain architectural symmetry with the Legislative, Cherberg, and O'Brien Buildings to preserve the viewscape and to provide programming space needs.

Mr. Schacht said the Executive Team for the project (Legislative Leadership) determined that a four-story Newhouse Building replacement would enable print production and design to be on campus to improve efficiencies during session. It would enable proximity to the campus for other legislative offices and for the code reviser. A significant amount of redevelopment has reconfigured existing parking to maintain parking capacity.

Mr. Schacht reviewed the structures to be demolished and the proposed new structures. The team is considering ways to preserve significant trees and identify all requirements by the City of Olympia. The parking shortfall is approximately 16 to 50 parking spaces, which could be mitigated by working with DES Parking Services and taking advantage of unused capacity in the Plaza Garage. Parking has been maximized for the project and buildings are oriented to maximize north/south orientation and solar exposure. The team recommends vacating Columbia Street and closing Water Street. Closing the streets keeps campus vehicular circulation on the campus as well as securing parking around legislative office buildings, which will improve campus security. The proposal has been reviewed with the City of Olympia with a meeting planned with the South Hill Neighborhood. DES has received feedback from the neighborhood but a formal presentation is pending. The City of Olympia was supportive of options to constrain campus vehicle traffic from adjacent neighborhoods.

Mr. Schacht noted the proposal also contemplates a one-story parking deck to increase parking capacity near the Visitor Center. The site grade enables a one-story deck with a minimal ramp and without the need for an elevator because ADA access can be provided at grade with minimal view access of the structure to the neighborhood.

The City of Olympia has asked DES to consider the possibility of including a roundabout at the intersection of Sid Snyder and Capitol Way South. It's unclear whether a roundabout would be an effective traffic measure. However, DES is working with the consultant team to complete a traffic study to evaluate the roundabout option, as well as other traffic impacts related to the proposal. Landscape buffers are included in the proposal to buffer the residential neighborhood.

Mr. Schacht reviewed programming needs for both replacement buildings. As the project will be multi-phased, temporary facilities will be required for employees from the Newhouse, Pritchard, and O'Brien Buildings. The preference is to place temporary facilities in the Mansion parking lot to enable the contractors during the first phase of the project to maximize efficiency on the site and provide the most benefit of increased parking to support later phases of the project. The team and DES are still researching the most practical solution with contacts to all impacted stakeholders.

An analysis was completed to determine relocation of the press to the ground floor of the Legislative Building prior to initiating construction of the Newhouse replacement building and demolishing the Press Houses. DES is working closely with key stakeholders and the press to ensure the best solution is identified.

Finally, when replacement of Prichard occurs, food service is a necessity to continue, as well as place for people to gather. That function will be included on the ground floor of the Newhouse replacement building. Services for the Blind operate the food service with a cafeteria-style service in the Pritchard Building. Contemporary food service today is not similar to cafeteria service. Services for the Blind believes the best service would be the concept of a grab and go service offering espresso, sandwiches, and some hot food. The level of food service has not been determined at this time.

Secretary Wyman invited questions.

Secretary Wyman asked for confirmation that both the Newhouse and Pritchard Buildings were built on liquefiable soils. Mr. Schacht affirmed that the soils are liquefiable with the soils worse on the Newhouse site. Secretary Wyman asked about any implications for the O'Brien and Cherberg Buildings and the status of a prior concept for constructing an "H" style two-building configuration on the Newhouse site and not pursuing any improvements to the Pritchard Building. Although CCDAC members previously received information about the disruption of workflow by locating offices away from the campus core, she asked about the efficiency of locating all the programs on the Newhouse site when the difference is only a measure of several feet especially during a time when much of the work is completed electronically. She indicated she would pose similar questions during the CCDAC presentation to receive a response.

Tumwater Modular Building Predesign – *Informational*
Secretary Wyman invited Assistant Director Frare to provide the presentation.

Assistant Director Frare reported the predesign was initiated by DES to address failing building systems in the modular building and some operational needs in the Print and Imaging Program and the Consolidated Mail Services Program (CMS). The review is the first presentation of the predesign for the committee's information and consideration. Staff plans to seek approval of the recommendations within the predesign report at SCC's December meeting.

The predesign was presented to the CCDAC on September 17, 2020 and a motion was passed recommending approval by the SCC. The project team leaders are Ted Yoder, DES Project Manager, and MariJane Kirk, DES Assistant Director Business Resources Division.

Project Manager Yoder introduced Damien Bernard, DES Print and Mail Program Manager. He and his staff were instrumental in developing the predesign. The predesign was operationally funded by the Mail and Print Programs to address current infrastructure needs and potential efficiencies by combining the two programs in one facility.

Program Manager Bernard reported Consolidated Mail Services and Printing and Imaging Programs represent current print mail operations at DES. The programs involve intertwined processes. Currently, the intertwined processes account for a six mile distance between two locations. CMS is located in a leased building in downtown Olympia and Printing and Imaging is located near the Olympia Airport in the south area of Tumwater. Creating operating efficiencies related to the processes along with improving security controls for protecting personally identifiable information on documents were major factors for considering co-location. The leased building housing CMS has multiple levels between operational areas requiring movement of materials up and down ramps using lifts as part of the current workload. Those factors were considered as part of the predesign.

Project Manager Yoder reported Rolluda Architects and a team of subconsultants evaluated programming space needs for each program and the areas that could be co-shared (office space, conference rooms, servers, warehousing, and restrooms) to reduce the inventory needs of both programs as they would no longer be shipping between locations. The predesign factored greater security, operating efficiencies, and cost effectiveness by co-locating all programs in one facility.

The needs assessment served as the criteria for evaluating different alternatives. Continuous operations are necessary to maintain for both programs throughout construction or relocation, security was a primary concern, improved workflows for each program and between the programs, and minimizing any impacts to the SOS's Record Center at Isabella Bush, which is connected to the modular building. Additional space within the modular building is currently occupied by the SOS, which would be vacated once the new building for the SOS is completed. That space would be incorporated in coordination with the SOS. The costs associated with the building's capital budget and co-location operating budget requirements were evaluated. The modular building is aging with the roof replaced in 2000. The building is essentially failing with expensive ongoing repairs, deteriorating exterior finishes and windows, and mechanical systems approaching end of life and not effectively meeting the current energy code or energy efficiency requirements moving forward. Other infrastructure is at or near the end of its useful life.

The team examined 13 alternatives within the modular building with most rejected because of inefficiencies or cost considerations. Several alternatives would have been viable but would not meet building code considerations. The team ultimately focused on four primary alternatives. Two of the alternatives would reuse existing docks for the shipping requirements and require an addition of a second floor, which would create inefficiencies at considerable cost with accessibility requirements and the workflow disjointed. The second two alternatives are similar in layout but would work operationally. The only minor difference is a redesign of the dock area to provide a secure shipping facility while saving approximately $1.5 million in costs.

Assistant Director Kirk reported that based on the requirements for the needs assessment, the team determined that Alternative 2.1C provided the most operationally efficient and cost effective space. The alternative facilitated a co-location for the DES Print and Mail Programs. The option utilizes existing low ceiling area on a single level of the modular building for CMS and it consolidates printing, imaging, and warehouse operations into high ceiling areas to maximize the use of existing vertical space. The option also repurposes existing space currently utilized by the SOS. The team and representatives have been in discussions with the SOS confirming the agency plans to consolidate records stored in the building into its new building when completed. The alternative also provides for a phased approach enabling continuous operations within existing space that will minimize impacts to customers as well as enabling the coordination of project schedules with the SOS and minimizing impacts to the adjoining Isabella Bush Building, currently occupied by the SOS. The co-location also minimizes security exposure for DES by eliminating five daily trips to transport personally identifiable information between multiple facilities. The project has an estimated total cost of $28.75 million of which $21 million in capital expense is required to address the aging infrastructure and $7.5 million to support co-location, which would be funded through a long-term COP. DES believes the project to co-locate Print and Mail operations will achieve operational efficiency through reduced turnaround time associated with labor and handling of materials, cost efficiencies by reducing over 43,000 square feet of leased space, and reducing inventory requirements for the program. Security improvements would improve by reducing the number of times personally identifiable information is transported on a daily basis. The proposal would provide minimal disruption to operations because of the phased approach of construction and the ability to coordinate with SOS.

Assistant Director Kirk invited questions from members.

Secretary Wyman noted that the Records Center would remain in the modular building with the library collection moving to the new SOS facility.

Capital Projects Update – *Informational*

Assistant Director Frare reported the Planning and Project Delivery Team lead by Kevin Dragon has been very busy. He introduced Hamed Khalili, Senior Project Manager and Oliver Wu, Project Manager for the Project Delivery Team.

Project Manager Khalili reported the design and bid for the Building Exterior Improvements – Capitol Court project were completed in September 2019. The scope of work was divided into three sectors with the first restoration of all historic windows and doors. The second element is exterior repair of the sandstone. The third element reinforces the structure of the building by improving anchoring for the sandstone veneer where necessary. The completion of the project is scheduled by the end of October 2020.

During construction, large stones of a column were displaced during the 2001 Nisqually earthquake rendering the building unsafe for tenants and the public. The DES team evaluated the situation and elected to remove each column stone and replace it back to its original location and securing the stones by anchoring them to the structure of the building.

Project Manager Wu reviewed progress on the Capitol Childcare Center project. The committee previously received a mid-design review. Since that review, some design revisions were rendered because of budget constraints while maintaining a six-classroom building serving 72 to 96 children by reducing the size of the building to 9,600 square feet as a one-story building. The effort continues the echo-friendly design and will meet LEED Silver requirements. The building will feature a CLT roof structure. The building includes a commercial kitchen and an outdoor nature-based playground.

Construction began four months ago with an expected completion date of spring 2021. Project Manager Wu shared a photograph of the building foundation and geopiers, underground utilities, and connecting utilities to the Plaza Garage. Earlier in the week, the CLT roof structure was completed. Moving forward, construction activities include completion of the roof component, interior walls, installation of windows, and completion of electrical service for the building.

Project Manager Wu reviewed progress on the L&I/WSDA Laboratory and Training Center project. All elements of the predesign were maintained for the seven-acre undeveloped parcel in Tumwater. The building will be 53,154 square feet with laboratories, office spaces, and training classrooms. The capital budget has not changed and the team is pursuing LEED Gold certification and a net-zero ready facility. ZGF Architects was hired as the design architect and Korsmo Construction was hired as the general contractor/construction manager. Currently, design is at the 100% design development phase. Layout of the site includes a parking lot surrounding the west and north side of the building with the building enveloped within a forested setting with tree removal minimized to the extent possible. The facility features an outdoor demonstration area for the Division of Occupation, Safety, and Health. The roof includes solar panels; however, solar panel installation was not included in the budget. To achieve a net-zero ready building, the design includes solar panels. The facility includes laboratory space for the Department of Agriculture and the Department of Labor & Industries with emphasis on large windows. The south end of the building features more open space and a lunchroom as a common area shared by both agencies. To promote the open space concept, the building includes floor to ceiling windows and a skylight entryway offering views to the south of forested areas. Construction is scheduled to begin by mid-2021.

Secretary Wyman asked whether any gophers were discovered on the laboratory facility site. Project Manager Wu advised that during predesign, a gopher study was completed resulting in minimal impact from the gophers.

Secretary Wyman asked whether the solar panels would be funded through a future budget. Project Manager Wu advised that a net-zero ready building is deemed energy efficient when it includes a renewable energy system to offset energy use by the building. To receive certification of net-zero ready, the building must be designed with necessary infrastructure for a renewable energy system.

Update on 2021-23 Capital Planning Process – *Informational*
Secretary Wyman invited Assistant Director Frare to update the committee on the 2021-23 Capital Planning Process.

Assistant Director Frare outlined how the facilities managed by DES, especially those on the campus, are facing significant challenges and milestones. The West Campus and the legislative buildings are 100 years old and East Campus administration buildings are 50 years old. In many cases, the buildings and building systems do not meet current building codes and some are in poor condition. Many are in need of modernization, replacement, and renovation or repair to meet energy and environmental goals and life safety requirements. Parking on campus is at capacity and new infrastructure is necessary to support electric vehicles. The campus sits on a sea bluff overlooking Capitol Lake and Puget Sound. The surrounding hillsides are unstable and pose a threat to buildings and utilities, such as the Power Plant and the area surrounding the Pritchard Building.

Capital project requests were categorized into four themes of:

- Planning and preparing for the future
- Building system replacement, renovation, and repair
- Utility and infrastructure replacement, renovation, and repair
- Physical security and improvements

Within the planning category, DES is requesting a Fleet Services Facility Predesign, Office Building 2 Predesign, Capitol Lake EIS (currently underway but needs funds for completion), and the State Capitol Master Plan. With all needs identified on campus, DES wants to ensure all parties are informed of the needs, and that there is a common vision on how to address those needs. A Master Plan is necessary to help achieve those goals.

Within the arena of building renovations and repairs, DES needs a Grounds Maintenance Building as the current facilities for Grounds Maintenance were demolished with the removal of the Conservatory and greenhouse. And elevator modernization program was developed as part of the Legislative Campus Modernization project. Another project is the Tumwater Modular project as previously reviewed, as well as cleaning of the Cherberg Building and a new roof for the Old Capitol Building off Washington Street.

Utility projects include water utility needs for fire flow and water meters, electrical system upgrades, replacement of irrigation systems, repairs and upgrades to the campus fiber network, and drainage system needs. The next segment of the East Plaza Infiltration and Elevator Repair project has been included in the request.

Within the biennial budget of 2023-2025, DES plans to include a request to replace the Capitol Campus Heating and Cooling System with a new central plant.

The project list also includes some distributed antenna systems and safety rails and other security improvements.

All projects were evaluated in accordance with specific criteria that include (but not limited to) health and safety, level of risk, building code compliance, economic savings, facility longevity, and sustainable energy as defined in Executive Order 20-01. DES staff is scheduled to provide a presentation at the next meetings of CCDAC and SCC focusing more on the 10-year plan with more details.

Public Comments and Closing Remarks – *Informational*
Project Manager Dragon advised that DES did not receive any public comments as of 4 p.m., October 14, 2020.

Assistant Director Frare reported the next CCDAC meeting is scheduled on Thursday, November 5, 2020. The next meeting of the SCC is scheduled on Thursday, December 10, 2020.

Adjournment
With there being no further business, Secretary Wyman adjourned the meeting at 11:55 AM.

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

Approved by SCC at the January 28, 2021 Meeting without modifications.

From:	Leonard Bauer
To:	Dragon, Kevin (DES); Frare, Bill (DES)
Cc:	Larry Merrell; mgoddu; Jay Burney
Subject:	Clarification to draft minutes of Oct. 15 State Capitol Committee
Date:	Tuesday, January 26, 2021 12:09:35 PM

External Email

Dear Bill and Kevin:

The *Draft Minutes* of the October 15 State Capitol Committee contain a reference to communications with the City of Olympia that may be misconstrued, and I am writing to offer clarification.

Specifically, please note for the record that on page 9 of 14, the statements highlighted below are not the City's conclusions but those of the State's consultant team based on their findings and reports, which were presented to City staff during the meeting:

"During the evaluation, the team learned that regardless of the amount of money invested in those improvements, the Pritchard reading room could never be upgraded to the point where it would meet current building code, and, during conversations with the Building Official from the City of Olympia to enable occupation of the reading room if it was improved to a specific level, egress from the office building could not rely on the entrance to the reading road because of the severity of potential collapse."

City staff have not yet had opportunity to review the State's plans to a level of detail that would allow them to reach such conclusions.

Respectfully,

Leonard Bauer, FAICP
Community Planning & Development Director
City of Olympia
PO Box 1967
Olympia, WA 98501
(360) 753-8206
www.olympiawa.gov
Remember: City e-mails are public records.

CAPITOL CAMPUS DESIGN ADVISORY COMMITTEE MEETING

Remote Access Meeting
Olympia, Washington 98504

November 5, 2020
10:00 a.m.

Final Minutes

MEMBERS PRESENT:
Alex Rolluda, (Chair) Architect
Dan Miles, (Vice Chair) Architect
Marc Daily, Urban Planner
Senator Sam Hunt
Chris Jones, Landscape Architect
Mark Neary (for Kim Wyman, Secretary of State)

MEMBERS ABSENT:
Representative Beth Doglio
Representative Vicki Kraft
Senator Timothy Sheldon

OTHERS PRESENT:
Damien Bernard, Department of Enterprise Services
Kevin Dragon, Department of Enterprise Services
Bill Frare, Department of Enterprise Services
Valerie Gow, Puget Sound Meeting Services
Rose Hong, Department of Enterprise Services
Majid Jamali, Department of Enterprise Services
MariJane Kirk, Department of Enterprise Services
Ann Larson, Department of Enterprise Services
Nouk Leap, Department of Enterprise Services
Chris Liu, Department of Enterprise Services
Annette Meyer, Department of Enterprise Services
Walter Schacht, Mithun Architects
Shazi Tharian, Mithun Architects
Ted Yoder, Department of Enterprise Services

Welcome and Introductions, Announcements & Approval of Agenda

Chair Alex Rolluda called the Capitol Campus Design Advisory Committee (CCDAC) virtual meeting to order at 10:04 a.m. A quorum of the CCDAC was present.

Members and staff provided self-introduction.

Chair Rolluda noted the excused absence of Senator Timothy Sheldon, Representative Beth Doglio, Senator Sam Hunt, and Representative Vicki Kraft.

Chair Rolluda explained the format of the meeting and the voting process for members. He asked members and staff to identify themselves when speaking.

Chair Rolluda reviewed the agenda topics: Review and approve September 17, 2020 minutes; appointment of 2021 Chair and Vice Chair; consider 2021 CCDAC meeting calendar; consider Insurance Commissioner Office Building Predesign; consider Legislative Campus Modernization Predesign; consider Tumwater Modular Building Predesign, receive an update on DES 10-year Capital Plan; and receive public comments.

The agenda was accepted as presented.

Chair Rolluda reported the committee will accept public comment during the meeting using Zoom's question and answer feature. Public comment will be reserved at the end of the meeting with staff providing a summary of any public comments received.

Approval of September 17, 2020 CCDAC Minutes - *Action*
Dan Miles requested a change to the minutes correcting the fifth sentence in the last paragraph on page 3 to reflect, "An apartment complex is located directly to the north."

Several typographical corrections to the minutes were previously submitted by Marc Daily to staff.

Marc Daily moved, seconded by Chris Jones, to approve the CCDAC meeting minutes of September 17, 2020 as amended. A roll call vote unanimously approved the minutes.

Senator Sam Hunt joined the meeting at 10:09 a.m.

Appointment of 2021 CCDAC Chair and Vice Chair – *Action*
Chair Rolluda reported the term of appointment for Chair and Vice Chair is effective January 1, 2021 and ends on December 31, 2021. The nominations are subject to approval by DES Director Chris Liu. Director Liu is responsible to appoint committee officer positions per RCW 43.34.080 and may elect to meet with each nominee following the meeting.

Chair Rolluda said it has been a pleasure serving as the Chair. He was recently notified of his reappointment to the committee until December 2022.

Project Manager Kevin Dragon advised that Chris Jones and Dan Miles were also reappointed and will serve staggering terms ending December 2024 and December 2023, respectively. He thanked members for their service.

Chair Rolluda opened the floor for nominations for Chair and Vice Chair.

Dan Miles nominated Alex Rolluda to serve as Chair.

Chair Rolluda nominated Dan Miles to serve as Vice Chair.

Marc Daily moved, seconded by Senator Sam Hunt, to accept the nomination of Alex Rolluda as Chair and Dan Miles as Vice Chair for 2021 for consideration by the Director of Enterprise Services. A roll call vote unanimously approved the nominations.

Establish 2021 CCDAC Regular Meeting Calendar – *Action*
Chair Rolluda reviewed the proposed 2021 committee meeting dates:
- February 18, 2021 at 10 a.m.
- May 20, 2021 at 10 a.m.
- September 16, 2021 at 10 a.m.
- November 18, 2021 at 10 a.m.

Chris Jones moved, seconded by Dan Miles, to approve CCDAC's 2021 meeting dates as presented. A roll call vote unanimously approved the motion.

Insurance Commissioner Office Building Predesign – *Action*
Chair Rolluda recognized Majid Jamali, Project Manager, DES, and representatives from Mithun to provide an overview of findings and the preferred alternative outlined in the predesign prepared for the Office of the Insurance Commissioner (OIC) and the Department of Children, Youth and Families (DCYF).

Assistant Director Bill Frare reported the project was included in the DES Capital Budget for preparation of a predesign to consolidate OIC offices on Capitol Campus. The budget proviso was modified by the Legislature in the 2020 Supplemental Capital Budget to include DCYF. Representatives from both agencies are in attendance to answer any questions. The committee has received two presentations on the project. The first briefing was on November 7, 2019 followed by a presentation on September 17, 2020. The request to the committee is to forward a recommendation to the State Capitol Committee. At the last briefing on the project, CCDAC offered a motion to recommend approval to the SCC, which was subsequently tabled to enable more time to review the proposal and address some questions from the committee. The briefing will include responses to those questions.

The committee's questions pertained to COVID-19 teleworking, the selection process for the site alternatives, parking for the building, parking capacity in the immediate area of the Helen Summers Building, and slope stability and the retaining wall. Staff is prepared to address the questions followed by a summary of the project, programming, and analysis of the preferred alternative.

Walter Schacht, Architect, Mithun Architects, briefed members on the direction to DES for the program, sites, and goals of the project. The needs assessment identified functional needs to resolve by reducing the number of buildings each agency occupies, as well as the technical needs of the GA Building currently mothballed but costing the state over $300,000 annually to maintain. The building was deemed unfit for occupancy and prior studies documented the building is not suitable for renovation. The proposed solution is construction of a 210,000 square-foot building on the GA site incorporating high-level space efficiency. The project budget includes funds for an off-site parking facility using alternative financing with a 30-year payback. The project aligns with the goal identified in the proviso for utilization of mass timber, energy efficiency, and consideration of net-zero energy.

Shazi Tharian, Mithun Architects reported on the assessment of programming needs with OIC and DCYF to identify the nature of each agency's workplace and potential impacts COVID-19 might have on future workplace needs. Based on the assessment, the team determined more employees could be accommodated in less space by gaining efficiencies through open office layouts and shared uses between OIC and DCYF. It was determined 1,125 employees could be accommodated reflecting an increase in the number of employees currently accommodated at numerous locations.

Mr. Schacht reviewed existing issues facing the OIC in three different locations and challenges for operating efficiency. Existing space does not account for planned growth or align with the Office of Financial Project Management (OFM) workplace strategies. DCYF is housed in five locations. Inefficient space use and insufficient operations because of the need for employees to move between different offices does not create an ideal work environment to attract and retain quality employees.

Ms. Tharian reported the preferred alternative is able to accommodate more employees in a smaller footprint. The potential impacts of COVID-19 were considered. OIC and DCYF anticipate 20% of the building's occupants would work from home in the future. Space planning accounted for the reduction with only 900 employees occupying the new building rather than 1,125 employees. The reduction in the number of employees enabled a reduction in the building footprint and reduces impact on parking.

Assistant Director Frare addressed the questions pertaining to the consideration of the site alternatives. The concept for the project originated as a co-located facility for the Insurance Commissioner and the State Auditor's Office. Four alternatives were selected at that time and specified in the proviso. During the authorization process, the State Auditor's Office opted not to move forward. The site alternatives included the GA Building, ProArts site, Visitor Center area, and the corner of Capitol Way and Maple Park. The Capital Budget included funding to construct a childcare facility on site located at the corner of Capitol Way and Maple Park, which eliminated the location from the study. Following adoption of the budget proviso, DCYF pursued an opportunity to co-locate with the OIC. DES continued to move forward with project planning and developed programming for DCYF in conjunction with OIC. At that point, DES was limited by the proviso that directed DES to consolidate the offices of the Insurance Commissioner. All three OIC sites were viable for the directive. In the 2020 Supplemental Budget, the proviso was modified to include DCYF. Immediately following the adoption of the budget, the preferred alternative of Opportunity Site #1 (GA Building) was selected by the two agencies. Because of the lack of time and funding, additional sites were not explored to complete a new set of alternatives analysis for those sites that would accommodate both buildings as it was outside the scope of the agreement with Mithun. DES moved forward at that point in accordance with the project schedule to develop the preferred alternative to complete detailed analysis and the predesign. The predesign was completed in September.

Ms. Tharian briefed members on the outcome of the parking analysis completed during the predesign. The predesign included a traffic study to identify the number of parking spaces necessary to accommodate additional employees on the campus, as well as retaining Washington State Patrol (WSP) parking on the sites. In addition to surface parking adjacent to the building, the study includes the cost of a parking garage located on the ProArts site. The study considered several locations for the parking facility. A detailed parking analysis was completed as part of the predesign based on the following assumptions:

- Not all employees would be traveling to work in a single occupancy vehicle
- State policy encourages employees to use alternate modes of travel to reduce carbon footprint
- The analysis determined a parking facility housing 612 to 740 parking stalls would be required to supplement on-site parking
- The project plan includes a 719 to 780 parking stall facility as part of the project, reflecting parking on the higher end of the range

The parking analysis accounted for 30% of the occupants at DCYF and 8% of the occupants at OIC who currently park on the campus and were not included in the additional parking needs assessment. The analysis also considered campus and visitor parking protocols. The parking need for OIC/DCYF is currently 707 parking spaces with the budget accommodating that need. Demand for future parking is anticipated to decrease. The issue during the design phase is identifying the required size of the parking facility. The design team believes the predesign has accommodated for high-end parking needs. Because of uncertainties surrounding COVID-19 and teleworking, the final size of the parking facility could change.

Mr. Schacht reviewed the preferred alternatives. The preferred location is on the GA site located north of the Great Lawn and west of the Helen Sommers Building. The building is situated on the site to fit within the footprint of the GA Building to avoid existing utilities, maximize potential for on-site parking, and ensure required emergency/fire access. The site is located a sufficient distance from the adjacent hillside. The building will sit on auger cast piles because of the type of soils and set back based on the geotech report. The predesign includes funding of $1.2 million to upgrade an existing solider pile wall to stabilize the hillside.

Building height is based on a number of factors. The 2017 State Capitol Development Study identified the maximum development capacity as being somewhat larger than the proposed 209,000 square-foot building. The study, adopted by the SCC, allows a seven-story building on the site. The proposed building is smaller in volume than previously identified in the State Capitol Development Study and would be designed for four stories on the north side to align with the cornice line of the Helen Sommers Building and to create a consistent presence north of the Great Lawn. The building would be six stories in height facing downtown Olympia. In addition to the State Capitol Development Study, the team reviewed all previous decisions rendered by CCDAC and SCC with respect to the height of a building on Opportunity Site 1. In three separate decisions, 70 feet was determined to be the maximum building height while accounting for site's slope from the north to the south with the building taller on the north side facing downtown Olympia. The final decision was a building height of 70 feet because of the site. The design features an average building height of 70 feet and 6 inches, which aligns with the goals of the Master Plan and previous decisions by CCDAC and the SCC.

Mr. Schacht shared an aerial illustration of the design depicting the four-story massing that aligns with the fourth story height of the north façade of the Helen Sommers Building to create consistent urban design character facing the Great Lawn. The building steps down a story and raises a story on the downtown side to take advantage of the topography and to provide adequate space for occupants.

The building is planned as a mass timber (cross laminated timber) building with the layout designed to maximum efficiency. The layout aligns with OFM's guidelines for contemporary workplaces and best practices both in the public and private sector for maximizing space use efficiently in office buildings. The ground floor features a large public lobby and public uses facing the Great Lawn. Office uses are featured in the upper levels. The design takes advantage and aligns with the requirements of the Capital Budget Proviso which requires a high-performance building with a EUI of less than 35; however, the design features a EUI of 18. Solar panels will be located on the roof with the building to be net-zero ready. The mass timber structure will showcase the state's emerging industry on the campus.

The parking structure will feature six levels on the ProArts site. The proposed budget for the project includes the construction costs and all related costs for the parking garage with parking capacity higher than the traffic analysis identified as required.

Mr. Schacht invited questions and comments.

Mr. Jones asked Mr. Schacht to speak to some key notes on one of the presentation slides depicting the building design. Mr. Schacht noted that to maximize the opportunities for natural ventilation and for daylight access, the building's two wings face east-west with a courtyard in the center to provide maximum daylight penetration and enable operable windows and natural ventilation to contribute to energy use efficiency. Outdoor spaces and spaces within the A-shaped courtyard will be served by an adjacent paved terrace featuring a grab and go food service operation.

Ms. Tharian described several of the key notes. Note 6 concerns the preservation of an existing sidewalk. Note 7 depicts informal seating areas. Note 8 is an existing retaining wall, which will be improved, Note 9 is new curb and gutter, and Note 2 is a fence to enclose the courtyard for security as the west edge is open to the public.

Chair Rolluda asked whether the 2006 Master Plan and subsequent studies were consulted as part of the predesign for the facility especially as it relates to use, height, and character. Mr. Schacht said the team studied the 2006 Master Plan as part of the review for selecting the GA site. The 2017 Development Study considered the Master Plan relative to the development of the site. The Master Plan, as updated by the 2017 plan, includes citations from CCDAC for previous development proposals for the site to provide an understanding of the potential building volume for the site. The target height is 70 feet on the campus side, which speaks to character because a building on the campus, with respect to the historic group of buildings, carries a consistent cornice line paradigm between the Cherberg and O'Brien Buildings. Locating the building on the GA site provided an opportunity to carry the consistent cornice line along the Great Lawn. The building character is not part of the predesign; however, in addition to height and volume, the basis of the design assisted in establishing a project cost to match the quality and type of material finishes on the Helen Sommers Building. Design will be created by the design team; however, the predesign team included sufficient information and the tools necessary to ensure the two buildings have an appearance consistent with the overall character of the campus. The 2006 Master Plan questions the types of uses to locate on the historic West Campus. Emphasis is on uses that relate directly to the functions of the legislative buildings within the historic capitol group. The Helen Sommers Building north of the Great Lawn sets a new precedent by enabling related uses to develop if located north of the Great Lawn.

Chair Rolluda commented that during the design of the Helen Sommers Building, members were concerned about the view of the Legislative Building dome from downtown Olympia. It appears the proposed building is higher on the north side than the Helen Sommers Building. Mr. Schacht explained that the Helen Sommers Building has a fifth floor serving as a penthouse. The height of the Helen Sommers Building to include the penthouse is 80+ feet on the north side. The predesign follows a similar pattern whereas the south side of the building's cornice line matches the Helen Sommers Building. Essentially the proposed building is the same height as the penthouse of the Helen Sommers Building. He offered to provide additional drawings to give a more specific sense of the building height in response to the question.

Ms. Tharian added that a section of the Helen Sommers Building at the top of the penthouse is 88' 7/2" in height. The proposed building height is 84 feet on the north end of the building. Building height on the south side of the Helen Sommers Building is 55' 71/2". The south side of the proposed building height is 57 feet.

Senator Hunt asked whether the proposed building height is the same height of the existing GA Building. Mr. Schacht said he is unsure of the height of the GA Building. Senator Hunt recalled that during the design of the Helen Sommers Building, he inquired about the possibility of using the penthouse for a restaurant and other commercial uses. He asked whether the team reviewed similar private/public partnerships to take advantage of the views. Mr. Schacht acknowledged the importance of the issue to discuss; however, the programming phase of the predesign is completed and the suggestion at this time should be considered during the design phase. The best way to take advantage of the upper stories similar to the Senator's suggestion would be for meeting rooms based on his experience with the retail industry, as retail uses generally prefer the ground floor because of exposure. He suggested considering shared space for meetings or a conference center that could serve as a destination location.

Chair Rolluda inquired about the process for public outreach and engagement for the project. Project Manager Dragon advised that the public outreach component includes the committee's review as well as the SCC's review of the predesign. Next steps include an outreach process as part of the design phase and with City approvals related to the building permitting process and other site requirements by the City. Those processes include public input opportunities at various stages.

Chair Rolluda questioned whether the next phase of the project includes releasing a Request for Qualifications for architectural teams for the design. Assistant Director Frare said the next steps include a briefing to the SCC on CCDAC's recommendation followed by a legislative review and appropriation of funds to begin the selection process for a design consultant.

Chair Rolluda asked for consideration of a motion to recommend approval of Insurance Commissioner Office Building Predesign by the SCC at its next regular meeting.

Assistant Director Frare advised of the previous tabled motion and recommended a motion to remove the previous motion from the table.

Dan Miles moved, seconded by Chris Jones, to remove the tabled motion from September 17, 2020. A roll call vote unanimously approved the motion.

A roll call vote unanimously approved the previously tabled motion: Chris Jones moved, seconded by Dan Miles, to recommend approval to the State Capitol Committee of the preferred development options, and related findings and recommendations, as outlined in the predesign study for Insurance Commissioner Office Building, as prepared by Mithun dated September 1, 2020.

Legislative Campus Modernization (formerly Newhouse Predesign) – ***Action***

Chair Rolluda invited Project Manager Majid Jamali and representatives from Mithun to provide an overview of findings and preferred alternatives for the Legislative Campus Modernization project.

Assistant Director Frare outlined the agenda for the presentation. The Legislative Campus Modernization project was included in the 2018 Supplemental Budget directing DES to prepare a predesign to replace the Newhouse Building and consider space needs for the House of Representatives. Based on the outcome of the alternatives analysis portion of the predesign, the Legislature amended the proviso and renamed the project to reflect "Legislative Campus Modernization project" and provided additional instructions on how to proceed. DES presented the project to the committee at two prior meetings. At the last meeting, members discussed project needs, programming, and several challenges. However, a number of major decisions had not been rendered at that point. Different alternatives were under consideration for an additional floor on the Newhouse Building, no decision has been established on whether to move forward on renovation or replacement of the Pritchard Building, several parking alternatives were under consideration, and no location had been identified for a temporary facility location. DES selected the option of adding a fourth floor to the Newhouse replacement building, the project team recommends replacing the Pritchard Building based upon life safety concerns, and recommends a parking solution and a temporary facility location.

Significant stakeholder work was completed over the last several months including meeting with staff of the Administrative Offices at the Supreme Court as the temporary facility would be located nearby. The team and staff worked closely with the South Capitol Neighborhood relative to traffic patterns and proposed parking solutions, as well as engaging with the Department of Archeology and Historical Preservation. The predesign is near completion and is scheduled for delivery to OFM on November 16, 2020. Staff is seeking the committee's recommendation to the SCC.

Assistant Director Frare invited Walter Schacht and Shazi Tharian with Mithun Architects to provide an update on the project.

Ms. Tharian reported the program was established on the assumption the Newhouse Building would need to be replaced because of its deteriorating condition and spaces within a new building would be right sized for current needs. Offices on the third and fourth floors in the O'Brien Building would be renovated and right sized. Spaces currently housed in Pritchard would be accommodated in the new building and production and design would be relocated to the campus to improve efficiencies. The project also includes the relocation of the press into the Legislative Building as the Press Houses would be demolished as part of the Newhouse Building replacement project.

The Newhouse and Pritchard Buildings are in poor condition, have structural and life safety issues, and are expensive to maintain. As previously documented by the state, the Newhouse Building should be replaced as it would not be cost effective or feasible to remodel. Additional work and study on the Pritchard Building revealed that because of its placement near the edge of steep slopes, it would not be feasible to remodel the building.

Mr. Schacht displayed an illustration outlining the location of the proposed project based on the Capitol Campus Master Plan. The Pritchard replacement building would be more the effective approach. The new building would be three stories providing approximately 72,000 square feet of space. The replacement building for Newhouse would be a four-story building providing 60,000 square feet with site development to improve vehicular circulation, parking, and security.Mr. Schacht reviewed existing conditions that were considered:

- Existing parking and parking structures
- Location of Newhouse Building
- Location of Pritchard Building
- Press Houses
- Visitor Center

The Press Houses, Visitor Center, and Newhouse Building would be demolished with parking to be reconfigured as well as some changes to vehicular circulation. The analysis considered security surrounding the buildings. A fifty foot setback is considered by the security consultant to be the preferred distance when the exterior of a building lacks specialized systems for building hardening, etc. Many buildings on campus have unsecured access by vehicles. Hillside stability on the Pritchard site was also analyzed in addition to the type of existing soils.

A range of alternatives were analyzed in terms of the scope of development. Options A-1 and A-2 would preserve the reading room in the Pritchard Building and replace and expand the footprint of the stacks for offices. The difference in the options is the building height of the new Newhouse building. Two B Options would replace Pritchard with either a three- or four-story structure.

The Pritchard Building is recognized as an important resource on campus as it is listed on the National Register and was designed by a well-known architect. The building serves as a great example of mid-century modern public architecture. The building has a number of inherent challenges in terms of reuse as a large portion of the building is comprised of stacks that cannot be occupied because of the floor to ceiling height. Previous studies of the building never explored the issue of the setback from the steep hillside. A recent geotech analysis identified a required 100-foot setback from the hillside for any new building. Any existing facility within that setback zone would also be subject to significant damage. The team met with a geotech, structural engineer, and the building official and completed a significant amount of study to determine possibilities for strengthening the hillside and the existing Pritchard reading room to retain the structure and add an office wing. The strategy is extensive and includes a 200-foot deep secant auger cast pile along a 200-foot wide wall drilled to depth of 100 feet. Because of the difficulty of the operation that could potentially impact the hillside, a drilling company was consulted to review the strategy. The company asked about the possibility of demolishing the Pritchard Building prior to reinforcement of the hillside for a staging area for heavy equipment. At this time, any strategy for constructing a secant wall does not exist. Additionally, the basement of Pritchard would need to be reinforced with micro piles and the roof would need to be removed along with some of the structure to access the basement to complete the operation. The result of those efforts would essentially be a replica of the historic building as reassembly of the building would be necessary. That strategy is a challenge for historic preservation, as well as extraordinarily expensive. Finally, it was clear during those conversations that it would likely be possible to improve the condition of the Pritchard Building for occupancy but it would still be subject to potential collapse during a significant earthquake. For that reason, the building official indicated that safety egress from the building would be jeopardized and not reliant with an alternative egress required for safety. Based on those factors, the team and stakeholders deemed the building to be too close to the hillside and not possible to renovate or preserve.

The preferred alternative replaces the Newhouse Building with a four-story building and replaces the Pritchard Building with a three-story building outside the 100-feet setback with the upper two stories cantilevered over the hillside to create symmetrical alignment between the Cherberg and O'Brien Buildings on axis with the Legislative Building. Based on conversations with the City of Olympia and residents of adjacent neighborhoods, the proposal eliminates current access between the campus and surrounding residential streets to improve security and prevent vehicle access on Sid Snyder to the campus to help eliminate parking in the neighborhood. The proposal is an effective way to protect the adjacent neighborhood. The response by the neighborhood was reasonably positive when presented with the option, although more discussion is required. Additionally, the proposal reflects vacating Water and Columbia Streets while retaining pedestrian access and sight lines. Parking lots under the proposal would be secured by providing security gates and limiting parking to authorized employees working in the buildings. Limiting the parking to authorized personnel eliminates the need for building setbacks and maximizes the ability to provide parking onsite.

Mr. Schacht reviewed programming components for the new Pritchard and Newhouse buildings.

Ms. Tharian identified the location of the temporary facilities at the east edge of the Governor's Mansion parking lot. Representatives from the Supreme Court were advised of the proposal because of its proximity to the Temple of Justice.

Because of the demolition of the Press Houses, press representatives will be relocated to the first floor of the Legislative Building. DES staff has met with members of the press to review the proposal.

As the Pritchard Building includes public space and a cafeteria, the new building would include similar spaces. As part of the predesign, the team met with Services for the Blind. The organization operates the cafeteria facility and would continue to operate a café to provide grab and go food options along with hot foods and sandwiches.

Mr. Schacht invited questions from the committee.

Mr. Miles said it appears an extensive amount of analysis was completed on the Pritchard Building to identify potential alternatives and ways to retain the building. He asked whether the team explored the concept of cantilevered space as an addition to the existing building by using different types of stabilization techniques. Mr. Schacht advised that the team studied those options both during the 2017 Development Study and Phase 1 of the predesign by considering placement of House office space next to as opposed to behind Pritchard. Office space behind the building would benefit the reading room to some extent. The team did not explore an addition on the eastside of Prichard and tethering the reading room as it is likely not a feasible structural approach. Reinforcement of the hillside would still be required along with reinforcement of the basement walls. At this time, there is no structural strategy that would protect the Pritchard Building in the event of hillside erosion. He described the challenges associated with removal of the roof of a concrete building and the extensive work required to the basement of the building. The entire network of parts and pieces required to complete the work would modify the historic character of the reading room. Both the Newhouse and

Prichard Buildings sit on liquefiable soils. The existing buildings have conventional foundations. The new buildings would be on deep pile footings.

Mr. Daily asked whether the Visitor Center is occupied as *Experience Olympia and Beyond,* the Olympia-Lacey-Tumwater Visitor Convention Bureau previously occupied the building. Assistant Director Frare advised that the building has been vacant for over a year.

Senator Hunt acknowledged the significance of the changes. He asked about efforts to outreach the community to include the neighborhood, historical interests, legislators, and others who occupy the buildings. Assistant Director Frare advised that the proposal is currently in the planning phase with the request to the committee to forward a recommendation of approval of the predesign to the SCC. The project has generated considerable discussion and coordination with stakeholders to include House Administration, Senate Administration, Capital Budget Chairs from the House and Senate, South Capitol Neighborhood, DAPH, and the Temple of Justice. As design proceeds, broader outreach will be implemented through meetings to ensure all stakeholders are included. Senator Hunt added that since the Nisqually earthquake, the state has struggled with the Pritchard Building when the building was utilized for other purposes. The problem has been ongoing for many years.

Project Manager Dragon added that as the project proceeds, public engagement processes will occur through CCDAC, SCC, and during the design review process. DES received a series of public comments about stakeholder and public engagement, which would be addressed during the design phase. DES received five comments. Two comments were received after the deadline. In summary, the comments speak to a need for master planning overall on the campus, the need for greater public engagement, a comment on the appearance of buildings to ensure buildings are dignified in appearance as they relate to the surrounding historic building in the South Capitol Neighborhood, and concerns about the fate of the historic Pritchard, Newhouse, and GA Buildings. The comments were forwarded to the committee prior to the meeting.

Mr. Neary commented that when standing at the Sun Dial, a major factor in the attractiveness of the campus is the geometry of the buildings. From the perspective of viewing the Pritchard Building from the area of the Sun Dial, he asked whether the proposal would honor and retain the geometry of the buildings. Mr. Schacht acknowledged that the view would be different as the predesign is a programming solution rather than a design solution. From a design perspective, the proposal will be a difficult design problem. It was important for the predesign budget to enable the design phase to explore options typically not pursued during design to ensure respect of the historic relationships of the buildings. The question is important and should be answered as the planning diagram places the building to the east to the extent possible with extended cantilevered space. Many questions yet to be answered include the location and type of entry, maintaining symmetry, and incorporating public space with character that is appropriate for the activities within the building. It might be possible to include outdoor space under the cantilevered space. Because of site limitations associated with the unstable hillside, much more exploration will be necessary to produce a design that respects the building's physical context.

Mr. Jones agreed the issue will be a key design consideration as the project moves forward. He thanked Mr. Schacht for acknowledging the importance of the issue as a critical piece in the redevelopment of the site.

Chair Rolluda recognized the team for the extensive study of the Pritchard Building and identifying potential options for preserving and restoring because once the building is removed, it is lost forever. It is important the new replacement honors and respects the Pritchard Building.
Chair Rolluda invited other comments. Project Manager Dragon shared information on two recently received public comments.

Marc Daily moved, seconded by Chris Jones, to recommend the State Capitol Committee approve the preferred development alternative(s) together with the related findings and recommendations, as outlined in the Legislative Campus Modernization (formerly Newhouse Building Replacement) Predesign prepared by Mithun. A roll call vote unanimously approved the motion.

Tumwater Modular Building Predesign – *Discussion*

Chair Rolluda recognized Ted Yoder, DES Project Manager; MariJane Kirk, DES Assistant Director, Business Resources Division; and Damien Bernard, DES Print and Mail Program Manager to provide an overview of findings and a preferred alternative for the Tumwater Modular Building predesign.

Assistant Director Frare reported the predesign was initiated by DES to address failing building systems in the modular building and operational needs in the Print and Imaging Program and Consolidated Mail Program. The predesign was previously reviewed by the committee in September. The committee recommended moving the predesign forward to the SCC; however, the committee questioned the compelling reason for combining the programs at one location and the operational savings and efficiencies anticipated by consolidation of the programs.

Project Manager Yoder reported that based on the critical repairs required for the building, combination of the programs was a practical decision rather than completing separate projects as combining the programs would enable minimization of the impact to both operations and retain ongoing operations during the project. Approximately 75% of the cost addresses aging infrastructure and 25% of the funding would be a long-term Certificate of Participation for co-location. The project would immediately reduce transportation costs by $78,000 equaling five daily trips between the two programs. The locations are separated by six miles. The project would immediately reduce the need for 40,000 square feet of leased space by the mail program gaining approximately $450,000 a year in lease costs, utilities, and associated costs. As part of the predesign, the team did not break down the actual operational efficiencies that could be gained; however, the team did consider streamlined workflow and savings on inventory by sharing inventory. The building would be upgraded reducing the overall cost of operations because of upgraded systems. The project should also afford some labor cost savings in cross training, reduced overtime, and the need for on-call decisions. Those savings were not quantified in the predesign.

Mr. Bernard added that other savings were recognized for combining the programs that were not monetized. He invited questions from the committee.

Project Manager Dragon reminded the committee of its previous action to recommend approval of the proposal to the SCC. The information is in response to Representative Kraft's questions at the last meeting.

Mr. Jones asked about the number of employees in the building and whether outdoor spaces support employees as part of the project. Mr. Bernard replied that both programs are supported by approximately 130 employees with 70 assigned to CMS. The building does not include outdoor dining space; however, the rear of the building includes a new loading dock that will require relocation of transformers. Exterior space is available for employees to walk and seating space could be added to the project. Mr. Jones noted that an existing tree canopy would afford an opportunity to include outdoor space for employees. Mr. Bernard agreed to add the recommendation as part of the design.

Chair Rolluda acknowledged that no action is required by the committee at this time.

Agency 10-Year Capital Plan – *Informational*

Chair Rolluda invited Assistant Director Frare, Project Manager Dragon, and Planning Manager Rose Hong to provide an overview of the agency's 10-Year Capital Plan for 2021-2031.

Mr. Daily advised of the need to disconnect from the meeting at noon to participate in another meeting.

Project Manager Dragon reported staff worked with the agency's business resource group (parking, campus security, finance, and maintenance) to develop a 10-year capital plan. The briefing will provide a summary of the plan and the 2021-2023 Capital Budget Request. He referred members to informational materials included within the meeting agenda packet. The 10-Year Capital Plan includes major projects with a value of over $1 million and programs typically comprised of a cluster of major projects. Major projects include preservation and programmatic projects. Minor works projects include preservation and programmatic projects that are valued less than $1 million and completed within a biennial cycle.

The 10-Year Capital Plan covers five biennia with the first biennium serving as the department's 2021-2023 Capital Budget Request. A matrix depicted a list of projects and planned projects in the subsequent biennium.

Manager Dragon reviewed projects and programs included in the 2021-2023 Capital Budget Request:

- Campus Security and Safety Improvement Program – several projects are planned for completion during the biennium:
  - Campus-wide Distributed Antenna System Study
  - Duress System Replacement
  - 3 Security and Safety Enhancements projects

- Campus Primary Circuits
  - Underground utility work

- Elevator Modernization Program – elevator projects for modernization have been identified for completion on a priority basis. The priority is based on age, location, whether the project aligned with other planned projects within the 10 years, and overall needs for elevator users.
- Generator Replacements – two generators identified for replacement are located at the Temple of Justice and the Natural Resources Building
- West Campus – Hillside Stabilization Program – as mentioned earlier, the Pritchard slope is included in the plan programmed for completion during the 25-27 biennium based on the timing of the Legislative Campus Modernization (LCM) project. The project might advance if the LCM project proceeds. Another project is the Conservatory hillside. With the demolition of the Conservatory, the fate of the site needs to be evaluated. Stabilization of the site is included in the next biennium.
- Legislative Building Cleaning Program – a program established by the Legislature for the building exterior to ensure the building is clean and presents a positive appearance. The legislative dome was cleaned during the last biennium.

Manager Dragon reviewed some of the projects included in the 10-Year Capital Plan. One project is the centennial for the Legislative Building in 2028. The department considered the timeframe and projects and programs that should be completed for preparation for the centennial celebration. Consequently, some projects and programs are sequenced in support of the centennial followed by emerging needs and other needs.

Senator Hunt supported the inclusion of the Senate skylights; however, he noted the Legislative Building includes two of the oldest elevators and those elevators are not scheduled for replacement until the 2029-31 timeframe. He questioned the delay in addressing the elevators. Manager Dragon explained that the campus has numerous elevators. Work is sequenced between 2025-2027 and 2027-2029 for the Legislative Building. Elevators 5 and 6 are programmed in future years. A consultant team completed an elevator study and identified priority elevators for replacement or modernization.

Manager Dragon reviewed the details of projects proposed in the 21-23 Capital Budget Request:

- Campus Security and Safety Improvement Program
  - DAS Study – a study identifying all gaps and a plan to address the gaps
  - Duress System Replacement
  - Door Access Control Exterior Improvements
  - Barrier Protection Design
  - Vehicle Access Control

- Campus Primary Circuits (Utility)
  - Inventory of primary electrical and communications systems
  - Assess conditions
  - Develop mitigation strategies

- Elevator Modernization Program
  - Old Capitol Building (2)
  - Temple of Justice (1)
  - Natural Resources Building (3)
  - Plaza Garage (1)

- West Campus – Hillside Stabilization Program
  - Demolish and remove foundation of Conservatory following demolition of the Conservatory
  - Abandon and relocate existing utilities
  - Stabilize slopes to address failure

Under the Legislative Building Cleaning Program, the next building scheduled for cleaning is the John A. Cherberg Building.

The Environmental Impact Statement (EIS) for the Capitol Lake Long-Term Management Plan was included in the budget request to continue Phase 2 of the EIS to identify the preferred alternatives for long-term management of the lake.

The plan includes earlier requests for funds for campus master planning based on the extent of work scheduled on the west campus and to some degree on the east campus. DES believes a master plan is imperative for the future of the campus. The budget request would enable development of the overall vision and strategies for sound technical and fiscal decision-making for the long-term of the campus as a whole.

Mr. Daily inquired about the amount of the budget request for the Capitol Lake EIS and the total amount of funds expended for the project to include the budget request if funded. Assistant Director Frare said staff would follow up with the figures. A nominal amount is required to complete the Capitol Lake EIS.

Project Manager Dragon said the budget request also includes the Transportation Building design. Predesign of the building is underway with the alternatives analysis in progress and some of the background work required for the technical aspects of the predesign. One factor is the program as the Department of Transportation is focused on teleworking that likely will affect the predesign. The project is intended to address building deficiencies and consider programmatic needs for the department in context of the new teleworking policy.

The budget request includes the implementation of preferred alternative of the predesign for the OIC Building project, subject to funding and decision-making by the Legislature.

DES staff identified a need for a grounds maintenance building on the west campus because of the demolition of the Conservatory as the Conservatory served as the shop and housed the equipment. Temporary relocations have maintained the maintenance function. The proposed location of the new building is near the Soil Shed on the west campus.

Preservation of Office Building Two was included in the budget request to prepare a predesign focusing on essential building systems and evaluate infrastructure, building systems, and seismic needs of the building.

Marc Daily disconnected from the meeting.

Implementation of the preferred alternative of the predesign for the Tumwater Modular Building was included in the budget request
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The East Plaza Water Infiltration and Elevator Repairs project focuses on the landscaping element and the amount of water intrusion into the Plaza Garage. Phase 5B was completed in the last biennium and based on experience, the best approach is to include 5C and 5D phases concurrently as they are located around the Halprin Fountain and near the new childcare facility.

Staff recently conducted an inspection of Marathon Park and discovered some deficiencies and identified some structural needs to replace decking and piling, as well as discovering underwater debris to be removed. The project includes analysis of the impact of scour on the bridge. The analysis is in concert with the Capitol Lake EIS.

The budget request includes the Old Capitol Building roof replacement due to an aging roof and ongoing water leaks.

Minor Works Projects are less than $1 million and include:

- Capitol Lake Dam - Safety Repairs
- Exterior Safety Railings - Legislative Building
- Governor's Mansion - Family Room Ceiling Repair
- Exterior Safety Railings - Temple of Justice Building
- Perry Street - Minor Facility Repairs/Improvements
- Old Capitol Building - Underground Fuel Tank Removal
- Governor's Mansion - Water Line Extension

Public Comments & Closing Comments– *Informational*

Chair Rolled acknowledged that all public comments were shared during the meeting.

Chair Rolluda thanked members, DES staff members, and the public for participating in the meeting.

Next Meeting – *Informational*
The next meeting of the State Capitol Committee (SCC) is on Thursday, December 10, 2020 at 10 a.m. and the next CCDAC meeting is scheduled on Thursday, February 18, 2021 at 10 a.m. Both meetings are remote access meetings. For more information, visit the SCC and CCDAC website for meeting dates, minutes, and meeting agendas.

Adjournment
With there being no further business, Chair Rolluda adjourned the meeting at 12:07 p.m.

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

Approved by CCDAC during a Special Meeting held on January 07, 2021 without modifications.

Dragon, Kevin (DES)

From: jacobsoly@aol.com
Sent: Wednesday, November 4, 2020 3:02 PM
To: DES SCC-CCDAC Public Comments
Subject: Comments for Nov. 5 CCDAC Meeting

Bill/Kevin -- Here are my comments for tomorrow's CCDAC meeting. Thanks, Bob Jacobs

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CCDAC Members:

State and national capitols usually have special architecture -- grand, dignified structures, clearly not ordinary office buildings. I believe this serves the purpose of inspiring respect for government and pride in our states and countries, and with luck, inspiring those involved in government to strive toward our ideals.

The Capitol Group is our local example of this. Subsequent capitol campus structures have moved away from it.

As you move toward adding three new structures very close to the Capitol Group, please assure that they are dignified in appearance and complement our original campus buildings.

Thank you,

Bob Jacobs
Former Olympia Mayor
Capitol campus supporter

Dragon, Kevin (DES)

From: Marygrace Goddu <olymur@gmail.com>
Sent: Wednesday, November 4, 2020 3:46 PM
To: DES SCC-CCDAC Public Comments
Cc: Rachel Newmann; Tom Henderson; Doyle Fanning; KAREN FRASER; alex@rolludaarchitects.com; Hunt, Sam
Subject: Public Comment for 11-5-2020 CCDAC Meeting

I am writing to express my concern that the State is moving toward approval of the most sweeping physical changes to the West Capitol Campus since its completion, without the guidance of a Capitol Campus Master Plan and public engagement process. Furthermore, the decisions under consideration have not been independently vetted for their impacts to the historic buildings and grounds, which are protected by law under RCW Chapter 79.24. The timing of these actions in the face of economic uncertainty, pandemic conditions and the changing workplace is imprudent.

Marygrace Goddu, Citizen
Olympia Washington

Dragon, Kevin (DES)

From: Pat McLain art <patmclain.art@comcast.net>
Sent: Wednesday, November 4, 2020 3:53 PM
To: Marygrace Goddu
Cc: DES SCC-CCDAC Public Comments; Rachel Newmann; Tom Henderson; KAREN FRASER; alex@rolludaarchitects.com; Hunt, Sam; Sam Reed; Tom Henderson; Michael Stevenson; Gerry Alexander; Marsha Long
Subject: Re: Public Comment for 11-5-2020 CCDAC Meeting

I share Marygrace's concerns. Why has there been so little or any real public engagement? When and how will we have an opportunity to weigh in on planned changes to the Capital Campus? Patricia McLain

sent by pat

> On Nov 4, 2020, at 3:45 PM, Marygrace Goddu <olymur@gmail.com> wrote:
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> Marygrace Goddu, Citizen
> Olympia Washington
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Dragon, Kevin (DES)

From: Sam Reed <samsreed@earthlink.net>
Sent: Wednesday, November 4, 2020 4:22 PM
To: 'Pat McLain art'; 'Marygrace Goddu'
Cc: DES SCC-CCDAC Public Comments; 'Rachel Newmann'; 'Tom Henderson'; 'KAREN FRASER'; alex@rolludaarchitects.com; Hunt, Sam; 'Sam Reed'; 'Tom Henderson'; 'Michael Stevenson'; 'Gerry Alexander'; 'Marsha Long'
Subject: RE: Public Comment for 11-5-2020 CCDAC Meeting

What is being proposed?

-----Original Message-----
From: Pat McLain art <patmclain.art@comcast.net>
Sent: Wednesday, November 4, 2020 3:53 PM
To: Marygrace Goddu <olymur@gmail.com>
Cc: SCC-CCDACPublicComments@des.wa.gov; Rachel Newmann <newmann45@msn.com>; Tom Henderson <thomasrh6720@comcast.net>; KAREN FRASER <karenfraser22@comcast.net>; alex@rolludaarchitects.com; sam.hunt@leg.wa.gov; Sam Reed <sam@samreed.org>; Tom Henderson <thomasrh6720@comcast.net>; Michael Stevenson <michaelstevenson@msn.com>; Gerry Alexander <galexander@bgwp.net>; Marsha Long <longmm77@comcast.net>
Subject: Re: Public Comment for 11-5-2020 CCDAC Meeting

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> Marygrace Goddu, Citizen
> Olympia Washington
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Dragon, Kevin (DES)

From: Marygrace Goddu <olymur@gmail.com>
Sent: Wednesday, November 4, 2020 7:30 PM
To: Sam Reed
Cc: Pat McLain art; DES SCC-CCDAC Public Comments; Rachel Newmann; Tom Henderson; KAREN FRASER; alex@rolludaarchitects.com; Hunt, Sam; Sam Reed; Michael Stevenson; Gerry Alexander; Marsha Long
Subject: Re: Public Comment for 11-5-2020 CCDAC Meeting

Tomorrow the CCDAC meets at 10 am to consider a lengthy agenda that includes the "Legislative Campus Modernization" project and a GA Building replacement to house the Insurance Commissioner and the Dept of Children Youth & Family Services. Note that our existing (2006!) campus master plan directs that only agencies with a critical legislative nexus or need for proximity to the Capitol should be placed on campus, to conserve space and set priorities in the face of demand. But.

These two plans would demolish 5 historic buildings (2 of the national register) and remodel a 6th. That's not counting the old Visitor Center which may also be impacted. The press houses become parking. Pritchard is either replaced or severely renovated. Newhouse is replaced (it is unsafe; it does have to go;), and GA is replaced -- while GA was lost to neglect long ago, should we rebuild NOW? For this set of tenants? Is there a better use for this site? Open the view and build below grade parking? Build a visitor Center where kids can offload from busses without walking in the mud? A gallery and heritage center perhaps?? what might happen if the public had a chance to chime in??

The details including tomorrow's meeting packet can be found here on the DES/CCDAC web page : (https://des.wa.gov/about/boards-committees/capitol-campus-design-advisory-committee). A lot of $$ has been spent on pre-designs at the legislature's direction, but the planning responds directly to the needs of the proposed tenants, with little regard for the public, or concern for the incredible and unique context of the historic campus, or consideration of options other than new construction, since that is what DES was directed to do.

That's my 2 cents. These are huge decisions that will dramatically impact our campus, and I'm not sure who is tuned in. I am heartened by all your responses.
The meeting starts at 10 am!

Yours,
Marygrace

On Wed, Nov 4, 2020 at 4:21 PM Sam Reed <samsreed@earthlink.net> wrote:

> What is being proposed?
>
> -----Original Message-----

From: Pat McLain art <patmclain.art@comcast.net>
Sent: Wednesday, November 4, 2020 3:53 PM
To: Marygrace Goddu <olymur@gmail.com>
Cc: SCC-CCDACPublicComments@des.wa.gov; Rachel Newmann <newmann45@msn.com>; Tom Henderson <thomasrh6720@comcast.net>; KAREN FRASER <karenfraser22@comcast.net>; alex@rolludaarchitects.com; sam.hunt@leg.wa.gov; Sam Reed <sam@samreed.org>; Tom Henderson <thomasrh6720@comcast.net>; Michael Stevenson <michaelstevenson@msn.com>; Gerry Alexander <galexander@bgwp.net>; Marsha Long <longmm77@comcast.net>
Subject: Re: Public Comment for 11-5-2020 CCDAC Meeting

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> Marygrace Goddu, Citizen
> Olympia Washington
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October 30, 2020

TO: Members, State Capitol Committee
Members, Capitol Campus Design Advisory Committee
Chris Liu, Director, Department of Enterprise Services

FROM: South Capitol Neighborhood Association Board

RE: State Capitol Campus Office Building Proposals

The South Capitol Neighborhood Association appreciates the opportunity to participate in briefings regarding current plans for two major building construction projects for the Legislature and the Office of the Insurance Commissioner and Department of Children, Youth & Families. We have two significant concerns about the process and plans as currently proposed.

1. **There is a need for a more comprehensive West Capitol Campus planning process.** A mechanism to ensure the preservation of the design integrity of our impressive Campus--its magnificent monument buildings and surrounding landscapes—is vital. A contrasting piecemeal approach to building plans at the location of the GA Building, Newhouse/Press Houses, and Pritchard Building could not only compromise this goal, but fail to fully address a host of critical overlapping campus issues moving forward.

2. **We need more information and opportunities to consider any proposal/s to block off Columbia & Water Streets to improve campus security and strengthen a buffer for the neighborhood.** We are open to this concept but stress (1) the importance of flexibility in times of emergency to enable residents and emergency vehicles to enter and exit via the campus in the event Capitol Way becomes blocked; and (2) the need for data to better inform potential traffic impacts in the neighborhood by residents, state employees and visitors in peak hours.

We believe a master planning process would provide necessary information to address:

(1) The future of office space needs given the current tele-work experience resulting from the COVID Pandemic;
(2) The need for a comprehensive transportation study to address perennial campus access issues for state workers and visitors (both vehicles and pedestrians) especially during legislative sessions, parking capacity, public transit opportunities, traffic and safety concerns on Maple Park and Capitol Way relating to the new Childcare Center; and the use of traffic lights/roundabouts on Capitol Way;
(3) Infrastructure needs based on sustainable building designs; and
(4) Expanded security considerations. A West Campus Master Plan would create a vital foundation to inform critical decisions defining our State Capitol Campus for decades to come.

We greatly appreciate having had the opportunity to view project briefings before CCDAC and SCC during the summer and fall, as well as a special stakeholder briefing facilitated by DES earlier this week.

Replacement of the GA, Newhouse and Pritchard Buildings offers a great opportunity to enhance the beauty of the State Capitol Campus, address current safety concerns of these worn out facilities, and meet capacity needs of OIC/DCYF and the Legislature. **We urge officials to reset the planning sequence**

to ensure that a comprehensive approach drives individual project decisions. And, we look forward to our continued participation in a stakeholder process that encourages valuable communication and involvement in and with this historic residential neighborhood that borders the Capitol Campus. We are committed to being good neighbors! Thank you for your consideration to the concerns we have raised.

Contact: Rachel Newmann, President, South Capitol Neighborhood Association (360-754-6328; newmann45@msn.com)

CAPITOL CAMPUS DESIGN ADVISORY COMMITTEE MEETING
Remote Access Meeting
Olympia, Washington 98504

September 17, 2020
10:00 AM

Final Minutes

MEMBERS PRESENT:
Alex Rolluda, (Chair) Architect
Dan Miles, (Vice Chair) Architect
Marc Daily, Urban Planner
Senator Sam Hunt
Chris Jones, Landscape Architect
Representative Vicki Kraft
Kim Wyman, Secretary of State

MEMBERS ABSENT:
Representative Beth Doglio
Senator Timothy Sheldon

OTHERS PRESENT:
Damien Bernard, Department of Enterprise Services
Sharon Case, Citizen
Max Brown, Department of Enterprise Services
Paul Campos, Office of State Senate
Max DeJarnatt, City of Olympia
Debra Delzell, Department of Enterprise Services
Kevin Dragon, Department of Enterprise Services
Carly Fa'ataualofa, Governor's Office
Bill Frare, Department of Enterprise Services

Marygrace Goddu, City of Olympia
Valerie Gow, Puget Sound Meeting Services
Rose Hong, Department of Enterprise Services
Ashley Howard, Department of Enterprise Services
Bob Jacobs, Heritage Park Association
Majid Jamali, Department of Enterprise Services
Hamed Khalili, Department of Enterprise Services
Marijane Kirk, Department of Enterprise Services
Ann Larson, Department of Enterprise Services
Linda Kent, Department of Enterprise Services
Nouk Leap, Department of Enterprise Services

Joan Marchioro, Citizen
Carrie Martin, Department of Enterprise Services
Michael Matlock, City of Tumwater
Chuck McKinney, Department of Enterprise Services
Annette Meyer, Department of Enterprise Services
Mark Neary, Secretary of State
Rachel Newmann, S. Cap Neighborhood Assn
Kyle Overmiller, Department of Enterprise Services
Phillip Person, Department of Enterprise Services

Kevin Pierce, Department of Enterprise Services
Richard Ramsey, Senate Staff
Jennifer Reynolds, Department of Enterprise
Valerie Robinson, Department of Enterprise Service
Walter Schacht, Mithun Architects
Gary Scott, Rolluda Architects
Sarian Scott, Senate Staff
Shazi Tharian, Mithun Architects
James Troyer, Citizen
Oliver Wu, Department of Enterprise Services
Ted Yoder, Department of Enterprise Services

Welcome and Introductions, Announcements & Approval of Agenda

Chair Alex Rolluda called the Capitol Campus Design Advisory Committee (CCDAC) virtual meeting to order at 10:07 a.m. A quorum of the CCDAC was present.

Members and staff provided self-introduction.

Chair Rolluda noted the absence of Senator Timothy Sheldon and Representative Beth Doglio.

Chair Rolluda explained the format of the meeting and asked members and staff to identify themselves when speaking.

Chair Rolluda reviewed the agenda topics: Review and approve February 20, 2020 minutes; receive an overview of recently adopted State Capitol Committee (SCC) Policies and Procedures and the need for a work group to review SCC statutes; review and recommend predesign alternatives and findings of the Insurance Commissioner Office Building, Legislative Campus Modernization Project, and the Tumwater Modular Building; receive information on key capital projects from the Department of Enterprise Services; and receive an update on the 2021-2023 Capital Planning Process.

The agenda was accepted as presented.

Approval of February 20, 2020 CCDAC Minutes - *Action*
Marc Daily moved, seconded by Secretary Wyman, to approve the CCDAC meeting minutes of February 20, 2020 as published. A roll call vote unanimously approved the minutes.

Review of SCC Policies and Procedures, and Work Group to Review SCC Statutes - *Information*
Chair Rolluda recognized Bill Frare, Assistant Director, Facilities Professional Services, Department of Enterprise Services.

Assistant Director Frare reported on the results of the State Capitol Committee discussion at its special meeting on August 10, 2020. The SCC adopted policies and procedures in alignment with the statute. The committee acknowledged a number of outdated statutes, no longer relevant, or in some cases, contradictory. Because of conflicting provisions applicable to both SCC and DES, the committee authorized the formation of work group to review the statutes and identify areas that are unclear and draft some recommendations for changes in some provisions.

The work group charter includes SCC members and other stakeholders. The scope of the project is to include both SCC and CCDAC members at the appropriate level when reviewing a project during the predesign phase and identify subsequent involvement and approval processes during the design phase and prior to construction. DES wants to ensure all proposed monuments receive appropriate review by both committees. The purpose of the work group is to develop recommendations for revisions to statutes and WACs, and potentially develop a set of bylaws. The goal of the process is provide clarity of authorities, clarity of roles, and clarity of the process to eliminate confusion.

Assistant Director Frare invited questions.

Chair Rolluda supported the goal of defining and clarifying roles. He stressed the importance of ensuring the CCDAC review includes predesign and programming. Assistant Director Frare explained the importance of the work group to define clarity on what information should be presented to each committee for consideration and action.

Chair Rolluda inquired about the process for establishing the work group. Assistant Director Frare reported staff is finalizing the charter for the work group and identifying membership. Staff is working closely with SCC members. The SCC is scheduled to adopt the work group charter at its October 15, 2020 meeting.

Senator Hunt asked whether any legislative proposals are anticipated. Assistant Director Frare advised that he and Ann Larson, Government Relations Manager, plan to discuss the possibility of potential legislative changes. Senator Hunt referred to his recent discussion with Manager Larson about the roles of CCDAC and the SCC. He asked whether the effort will address the roles of the committees. Assistant Director Frare advised that the work group will discuss the roles and responsibilities of both committees. Manager Larson added that the work group could potentially recommend statute changes for the 2021 legislative session.

Representative Kraft questioned the process for identifying members of the work group. Assistant Director Frare advised that staff is working closely with SCC members and prefers to defer questions on membership until he has had an opportunity to speak to all SCC members. Representative Kraft asked whether staff has a sense in terms of how members would be selected. Assistant Director Frare said membership assignments would be at the discretion of the SCC and others would be recommended by DES to the SCC.

Manager Larson added that for legislative membership, staff will contact legislators within the department's authorizing environment for both capital budget and policy for general government with a request to offer a recommendation of an individual who could represent either the House or the Senate as a member of the work group.

Chair Rolluda reminded everyone that the committee will accept public comments during the meeting utilizing the Zoom Q&A feature. A public comment period is also scheduled at the end of the meeting.

Insurance Commissioner Office Building – *Action*

Chair Rolluda recognized Majid Jamali, Project Manager, DES, to provide an overview of findings, alternatives, and the preferred alternative outlined in the predesign prepared for the Office of the Insurance Commissioner and the Department of Children, Youth and Families (DCYF).

Project Manager Jamali reported the project is authorized in the budget proviso, ESSB 6248 Section 1028, which requires a study of space needs for the Office of the Insurance Commissioner and the DCYF on Capitol Campus. The project is comprised of two phases. Phase 1 includes the alternatives analysis and Phase 2 is the preferred alternative.

Opportunity sites studied included:
- Site 1 – General Administration Building
- Site 6B – Visitor Center
- Site 12 – Pro Arts Building

Each site was evaluated for total square footage programming needs. The combined facility of the OIC and DCYF requires 209,000 square feet. The General Administration Building site was the only site that could accommodate the required square footage. Subsequently, Site 1 was selected as the preferred alternative for the project.

The GA site requires demolition of the existing building. The site is adjacent to a steep slope that will need repairs to a retaining wall. The site provides views of Capitol Lake. The GA site is located in the proximity of the Helen Sommers Building to the east and the Columbia Garage to the northeast. An apartment complex is located directly to the south. Many significant trees are located to the west of the site with a storm drainage facility located on the north half of the site. Existing trees and understory vegetation will be protected. The south side of the site creates a formal edge to the Great Lawn and the building footprint aligns with the Helen Sommers Building. The site plan includes 87 parking spaces. Based on a preliminary parking study for the project, DES recommends assigning additional parking in the garage to accommodate parking needs for the building.

The design of the building places the main entrance on the south side of the building from 11th Avenue SW for public access with employee access from an entrance located from the north parking lot. Two parallel bars optimally oriented for solar access will provide day lighting and minimize heat gain. The building orientation optimizes the roof for solar panels with central circulation and the utility core connecting to the parallel bars.

Elevation of the building includes four-story massing on the building side facing the Helen Sommers Building and six-story massing facing downtown Olympia stepped down to follow the downward slope of the road. The average height of the building is 73 feet, which aligns with the scale of downtown Olympia on the north side of the building. A central courtyard enhances daylight and provides views.

The building size is 209,000 gross square feet providing 127,500 net square feet for programming. The OIC will occupy 1.5 floors of 29,484 net square feet and DCYF will occupy 3.5 floors of 103,831 net square feet. The programs will share 59,438 net square feet of space. The building will be rated at 61% efficiency and provide 27% in space savings based on current occupied space. The building size can accommodate an additional 179 FTEs. Project Manager Jamali outlined the location of each program within the building. Most workspaces surround the perimeter of the building with the core sections occupied by private offices and conference rooms with views.

The project showcases the possibilities of using Cross Laminated Timber (CLT) for construction to leverage the region's heavy-timber industry and innovation around CLT. Use of CLT creates a smaller carbon footprint and supports LEED goals. The building will be considered a net-zero ready facility with a EUI (Energy Use Index) of less than 35. Additional mounting of photovoltaic panels will reduce EUI by approximately 9. The building design enables the addition of photovoltaic panels in the future.

Project Manager Jamali invited questions from the committee.

Mr. Miles asked whether the site selection analysis considered departures on the other sites that would enable development in excess of the square footage required or whether the GA site was the de facto choice because of its size. Project Manager Jamali advised that the team studied the sites and determined the sites were not large enough to accommodate a combined facility. Mr. Miles asked whether the team analyzed potential departures that would be needed to consider one of the two sites. Project Manager Jamali affirmed the team conducted the analysis that is included in the predesign report. Analysis was completed for all sites. The other two sites were only capable of accommodating OIC programming needs.

Mr. Jones asked whether the team explored opportunities for below-grade parking of the sites. Project Manager Jamali replied that underground parking was studied; however, because of the complexity of the site and close proximity to the steep slope and the cost of construction for underground parking, the option was not considered viable.

Representative Kraft commented that the capacity requirements should have been considered as part of the process of considering site options. She asked whether other sites were considered beyond the three initial sites that would have accommodated the programming capacity as it appears the three sites were selected prior to determining programming needs. Project Manager Jamali said the budget proviso required evaluation of the space needs of DCYF as part of the project, which resulted in a combined facility housing both the OIC and DCYF requiring 209,000 gross square feet.

Senator Hunt commented on the importance of the compatibility of the exterior design with other campus buildings and the Capitol Campus. He asked whether the project would maintain access along Columbia

Street. Project Manager Jamali advised that Columbia Street would not be impacted by the building. The building will feature an access point from Columbia Street to the north side of the site.

Senator Hunt asked whether the retaining wall was an old wood wall. Project Manager Jamali advised that some repair to the older wood wall is necessary based on the geotech report on the structural analysis for the project. Repair of the wall is required before construction can begin on the project.

Senator Hunt noted because of the pandemic, re-evaluation of space needs would likely be considered by the state. He recommended proceeding slowly as space needs for both programs could change. The Department of Commerce has indicated it will likely reduce programming needs by one building because state employees are teleworking and some employees continue to work from their office. He urged caution when considering space requirements for future buildings.

Representative Kraft asked about the calculation used to determine projected growth of 179 employees. Project Manager Jamali advised that the projection is based on forecasted growth from the present to 2030 based on information from OIC and DCYF.

Secretary Wyman requested additional information on the status of the IBM site and a proposed building that was presented to the committee as a predesign for a net-zero building project. Project Manager Jamali advised that the original SHB 1102 included the IBM site; however, the Capitol Campus Child Care Center was designated for the site. The site was subsequently removed in ESSB 6248. The Child Care Center is currently under construction.

Secretary Wyman expressed concerns about the lack of parking for a new building on Capitol Campus housing up to 1,200 employees regardless of other parking mitigation measures to reduce parking demand. She stressed the importance of considering parking needs as part of the project because of adverse impacts to the campus and urged continued discussion on parking needs. She questioned why other sites located off campus were not considered for housing state employees. Her concerns surround adding more employees on campus, more traffic, and increasing parking impacts. From a common-sense standpoint, the proposal does not make sense to her.

Assistant Director Frare said parking and traffic impacts caused by adding 1,200 employees are of concern to DES as well. The predesign speaks to the issue and refers to a parking structure. When the predesign moves forward to the Governor and the Legislative for approval, the total cost of the project includes a parking structure as one unit rather than several projects based on lessons learned from the Helen Sommers Building, which lacked parking and other infrastructure necessary to support parking.

Chair Rolluda said he envisions the costs for reinforcing the retaining wall to be substantial. He asked whether an analysis has been completed on the cost as a percentage of the total construction cost. Project Manager Jamali responded that the costs of retaining wall improvements were included in the project cost. The geotech analysis and the structural needs for the building were all included as well. Chair Rolluda asked whether the proposed building could be a candidate for ground source heat exchange. Project Manager Jamali said that option was not considered for the project because of the cost and the amount of energy generated by the building.

Chair Rolluda cited the floor plan and questioned the location of the electrical/mechanical components within the building as it appears the location would be good opportunity for offices and conference space. Project Manager Jamali advised that the location was selected because of limited light caused by the slope of the building in that area.

Senator Hunt asked about the option of food services within the building. Project Manager Jamali advised that a cafeteria is located on the main level. Senator Hunt recalled the lost opportunity during the planning for the Helen Sommers Building by not adding a floor with condos or a restaurant to generate revenue. The GA site is a prime site because of the views. He supported pursuing commercial tenants.

Chris Jones moved, seconded by Dan Miles, to recommend approval to the State Capitol Committee of the preferred development options, and related findings and recommendations, as outlined in the predesign study for Insurance Commissioner Office Building, as prepared by Mithun dated September 1, 2020.

Representative Kraft requested clarification as to the motion and whether the motion is reflective of approval of moving forward with the design as presented or whether the motion is reflective of acknowledging the report as presented. Assistant Director Frare commented that the question speaks to the need to establish a work group to help define the scope of decisions by each committee. The committee provides a recommendation to the SCC for approval of the predesign. The statute governing the action speaks to SCC as the approval body for construction on Capitol Campus. The committee's successful vote to recommend approval of the predesign also reflects a recommendation to move forward with construction of the proposal.

Chair Rolluda asked about the possibility of amending the recommendation. Director Frare advised that the committee has the option of moving an amended recommendation forward.

Senator Hunt said he is uncomfortable moving forward at this time.

Senator Hunt moved, seconded by Representative Kraft, to table the motion to the next meeting to enable time to examine the proposal and assess impacts on state government prior to moving forward with a major building project. A roll call vote unanimously supported the motion.

Mr. Miles asked staff to forward the full study to the committee. Director Frare confirmed the request.

Legislative Campus Modernization (or formerly Newhouse Predesign) – Information
Chair Rolluda recognized Project Manager Majid Jamali.

Project Manager Jamali reported the project was formerly the Newhouse Predesign project. The 2020 Supplemental Capital Budget ESSB 6248 Section 1035 renamed the project as the Legislative Campus Modernization – Predesign. He introduced Walter Schacht with Mithun. Mr. Schacht briefed the committee on the project.

Mr. Schacht reported the project is a follow on to the 2017 Opportunity Site Development Study. At that time, the study identified challenges with occupancy of the Newhouse Building by the Senate, as well as significant issues for occupancy of the Pritchard Building. Both buildings have significant deficiencies to withstand a seismic event and both buildings have outdated electrical, mechanical, and plumbing systems impacting the use of the buildings. The most recent study could not identify a cost-effective method to improve the Newhouse Building for occupancy. The building was constructed in 1934 as a temporary facility and has been occupied for 86 years. The Pritchard Building is an historic resource but has a number of challenges.

The Newhouse Building should be replaced. A baseline program includes replacement of Senate offices in a new building notwithstanding the need for House office space, as well as a number of legislative agencies currently occupying the Pritchard Building and some space in the Cherberg Building. When the Legislature initially approved funding to study the Newhouse Building replacement, the intent was to ensure all programmatic issues were addressed simultaneously. Consequently, replacement of Senate offices and right-sizing House offices would require new space for the House and tenant improvements to the O'Brien Building and remodeling or replacing the Pritchard Building (tenants temporarily relocated). Existing site context issues were addressed in the study as the buildings are adjacent to the South Capitol Neighborhood. Appropriate buffers between activities, buildings on campus, and vehicle circulation would be addressed as well.

Consistent with the Office of Financial Management's (OFM) predesign manual and the approach for the OIC-DCYF predesign, the study was separated into two phases. The first phase was evaluation of alternatives for project development. Some of the steps were required because of provisions in the capital budget allocation for predesign, as well as the need for information by Senate and House stakeholders.

Option A identified during the alternatives analysis includes separate Senate and House facilities with legislative agencies included in House space on the Pritchard site. Option B is a single building accommodating all program needs (Senate & House). Option C replaces Newhouse Building with a similar-sized building (25,000 square feet). Another consideration was whether it would be possible to renovate the Newhouse Building cost effectively.

The evaluation of the options revealed:
- Need to right-size House offices
- Substantial deficiencies in the Pritchard Building need to be addressed either by renovation or entire replacement
- Movement of people and process during the legislative session in an all-in-one solution of collocating all programming needs within the Newhouse Building was deemed not viable
- Dividing Senate and House programs to two smaller buildings on different sites was the preferred option to meet program needs and in consideration of the neighborhood

Phase 2 was initiated on the premise of building on two sites. However, because of the significant passage of time between completing Phase 1 and adoption of the revised proviso changing the project scope, the proviso directed an alternative of facilities on separate sites, as well as considering other programmatic needs while ensuring parking capacity was maintained.

Existing conditions include parking in different locations, the Newhouse Building, press houses, and the Visitor Center Building. The study examined parking and the appropriate space for the press. The study identified the need for more studies of the Pritchard Building site. A geotechnical engineer recommended a minimum setback from the hillside as the Pritchard Building sits along steep slopes. Soils under the Pritchard and Newhouse Buildings would liquefy during a significant seismic event. The buildings essentially have no bearing capacity to resist either vertical or horizontal loads. Deep foundations would be required with placement located some distance from the steep hillside.
The current program under consideration continues to generate questions about programming space for both buildings. The study recommends the House building include additional office space equaling office space for the Senate. Of the existing three House offices in the O'Brien Building, two offices would remain with the third moved to the Pritchard site. The Senate Building on the Newhouse site would include

additional shared space. Other space needs include the Page School, Press Houses, and the Pritchard cafeteria.

The preferred alternative for the Pritchard Building includes several alternatives of adding and renovating the building or replacing the building, which is a national register landmark building and an important historic facility. Currently, half of the building footprint is located within the hillside setback. The building has mechanical and other deficiencies. The team is considering whether it is feasible to renovate and add to the building. If it is possible to develop a strategy to preserve the building, the issue is whether it would be cost-effective.

Mr. Schacht reviewed Option A.1 site plan, which reflects preservation of the Newhouse Building and a new three-story building on the Pritchard site to accommodate programming. The lower floor of the new building would be within the setback from the hillside with the upper stories cantilevered over the slope to maximize the use of the site and maintain the symmetrical relationship between the Legislative, O'Brien, and Cherberg Buildings.

Options A.2 and B.2 replace the Newhouse Building within the same footprint with either a three or four story building to achieve the best value and align with other multi-story buildings (Cherberg and Insurance Building) in the immediate vicinity. Options A.1 and A.2 have similar site plans with the only difference of a three or four-story new building, retention of the Pritchard Reading Room with a three-story addition in the rear extending to the east. In terms of context of the neighborhood and vehicular circulation and parking, the intent is to utilize surface parking to address parking issues (parking needs may be less because of COVID-19 and need for less office space). Changes in transportation with more reliance on mass transit and electric vehicles should also be considered. Press Houses would be displaced during the project regardless of the option selected. The Visitor Center is a temporary facility with many deficiencies. The site plan contemplates maximizing use of Opportunity Site 6. At this time, all options are initial explorations and no determinations have been selected. Two options under exploration may improve the relationship between the South Capitol Neighborhood and the campus by essentially terminating vehicular circulation on Water Street and Columbia to alleviate some of the pressure on the historic neighborhood, as well as improving campus security by gating entry into sensitive areas.

Mr. Schacht referred to illustrations of programming within the buildings. Replacement of the Pritchard Building would be challenging. As a design professional, he admires the building's architect but is concerned about the efficacy of attempting to preserve the building in place considering its precarious position to the hillside. To preserve the building, construction of a secant pile wall would be necessary by installing pilings along the edge of the slope to protect the hillside and preserve the building. The equipment necessary for construction of pilings is heavy and could pose a threat of collapsing the hillside during the operation. Today, the proposal is to remove Pritchard to build the wall and restore the reading room. However, he is unsure whether that alternative supports historic preservation principles. Since the Pritchard Building is a cast in place concrete building, no practical options exist to remove and replace the building. The proposal to replace the Pritchard Building includes stepping the new building from the hillside and cantilevering the building over the hillside.

The two options for the Newhouse replacement entails one three-story building with the ground floor housing the Page School with tenant spaces in the upper stories. If the replacement building is four stories, the ground floor would house legislative agency uses with Senate offices in the upper stories.

Secretary Wyman asked about the possibility of enlarging the new building on the Newhouse site to avoid touching the Pritchard site. She questioned why a new building is contemplated on the Pritchard site if the site is so unstable and the potential implications to the O'Brien Building as it appears the hillside might be impacting that building as well. Mr. Schacht advised that the 2017 Opportunity Site Development Study evaluated the potential of maximizing the development of the Newhouse site. The study featured an H-shaped building similar to the proposal for the OIC/DCYF design. A four-story building would align with Cherberg and O'Brien Buildings and would yield 135,000 square feet. However, upon examining the issue of legislative functions, the option was not viable as House members believe it is important to be located immediately adjacent to the O'Brien Building. Legislative members believe traveling between the various offices to conduct business would not be a viable option. Additionally, the Senate and House believe it is important that the Code Reviser is located in a neutral and central location. Moving the Code Reviser office to Opportunity Site #6 (Newhouse site) would be problematic in terms of access especially near the end of the session. In terms of the viability of construction on the Pritchard site, the geotechnical engineer's report considered current seismic codes and recommended a 100-foot setback with a deep foundation. It is not possible to upgrade the Pritchard Reading Room to current codes, but it should be upgraded to a level the City of Olympia requires for life safety by utilizing the entrance as both the exit and the entrance. The study did not include a geotechnical study of conditions for the O'Brien Building. DES is concerned about the larger issues, but those issues should be part of a comprehensive review of the long-term future of the campus plan in conjunction with a master planning effort for evaluating programming needs, energy usage, long-term use of facilities, and other considerations.

Secretary Wyman thanked Mr. Schacht for the information.

Secretary Wyman disconnected from the meeting at 11:28 a.m. Mark Neary served as the alternate.

Mr. Daily asked about the preservation of pedestrian and bicycle access if both streets are closed to vehicle traffic. Mr. Schacht advised that City sidewalks from the neighborhood extend north through the street and to the parking facility. Part of the performance requirements for the design phase include attention to trees, paving patterns, pedestrian crossings, and other pedestrian and bicycle improvements to facilitate pedestrian and bike access.

Senator Hunt inquired about the timing to meet with the South Capitol Neighborhood to discuss the plan. Assistant Director Frare affirmed the South Capital Neighborhood would be engaged during the process.

Senator Hunt remarked that the Pritchard Building is not adaptable to serve as a state office building based on previous efforts to utilize the building. However, if the building is contemplated for removal, he advised staff and the committee to be prepared for some discontent. He asked about any options for the Visitor Center site instead of the Pritchard site. Mr. Schacht said the site is located even further away from the Legislative Building and he suspects that security interests would be uncomfortable with locating a legislative office building off Capitol Way. The new buildings functionally and technically should be located within the interior of the campus.

Chair Rolluda acknowledged the extent of the work completed and inquired about the next briefing on the proposal. Mr. Schacht said the process is proceeding to identify one alternative of either a three or four story building on the Newhouse site. A decision on the number of stories will help to provide information on the scale of the building. The team is analyzing potential structural solutions for maintaining the Pritchard Reading Room and expanding the size and plans to develop structural strategies to determine whether it would be feasible to replace the building. The information will include side-by-side comparison with costs. Following completion of the information, a briefing can be coordinated with the committee.

Tumwater Modular Building Predesign – *Action*
Chair Rolluda announced his recusal from the discussion as his company is involved in the project.

Dan Miles assumed Chair responsibilities.

Vice Chair Miles introduced Ted Yoder, DES Project Manager, to provide an overview of findings, alternatives considered, and the preferred alternative outline in the predesign prepared for the Tumwater Modular Building.

Manager Yoder presented the findings of the Tumwater Modular Building predesign developed by Rolluda Architects with input from many stakeholders in the Printing, Imaging, and Consolidated Mail Services programs. He introduced Damien Bernard, DES Print and Mail Program Manager, Marijane Kirk, DES Assistant Director Business Resources Division, and Gary Scott, Associate Principal, Rolluda Architects.

In early 2020, the consultant team and representatives from Printing and Imaging, and Consolidated Mail Services considered the efficacy of collocating Consolidated Mail Services with the Printing and Imaging programs into a single shared facility presently occupied by Printing and Imaging. Consolidated Mail Services is currently located in a leased facility in downtown Olympia while Printing and Imaging is located in a DES-owned facility in Tumwater on land leased from the Port of Olympia located at 7580 New Market Street Southwest. The three programs interact intensively and separation of the programs creates inefficiencies and increases risk of exposure to protected information and potential security breaches.

The predesign represents a robust programmatic approach for meeting the facilities and support functions of Printing, Imaging, and Consolidated Mail Services within a single highly functional energy efficient facility that would enhance the working relationship between the programs. The 98,000 square foot modular building of industrial warehouse space and office space was built in 1983. The building includes 40,000 square feet of below bay area used for printing, storage, and fulfillment, and 57,600 square feet of high bay area housing printing equipment and production facilities. In additional to addressing spatial and programmatic requirements for both programs, the predesign addresses the state's preference to eliminate the use of fossil fuels, increase energy efficiencies, improve operational efficiencies, and eliminate redundancies in the sharing of office and meeting spaces. Mechanically, the building's HVAC system, with the exception of the gas boilers, is reaching the end of its serviceable life. As the state has mandated the cessation of fossil fuels, the implementation of upgraded energy usage standards are part of the design considered during the review of different options. Meeting those requirements will require the demolition of the existing systems and installation of new HVAC and distribution systems. The state prefers using heat pumps for heating and cooling as specified in the predesign. The building roof is nearing the end of its serviceable life with the last replacement in 2000. Following numerous repairs, the roof is failing in multiple locations. Replacement of the roof requires upgrading the insulation to meet current energy requirements of R-38, substantially improving the energy performance of the building.

The team considered five alternatives with two primary alternatives considered of Option 2.1.A and Option 2.1.C. The spatial layouts for both options relocate different operational functions in logical and programmatic sequences to improve material throughput. The options enable use of underutilized spaces and industrial uses, such as the utilization of existing conference rooms for presort and sortation, as well as incorporating existing corridors creating additional usable areas without sacrificing the current mandated means of egress. Workload for the new mail facilities would be more organized with all operations and facilities located on a single floor. The layout utilizes the existing Secretary of State library storage space anticipated to be vacated in the near future. The facility includes a large covered and secure loading dock.

Construction can be phased to minimize operational disruptions. Both options minimize the exposure of protected information and potential security breaches.

Disadvantages include an existing transformer and generator, which will require relocation and coordination with the Secretary of State for relocation of library storage. Option 2.1.A has a substantial cost disadvantage associated with a fully enclosed loading dock area in comparison to Option 2.1C., which incorporates a covered loading dock area and a secured perimeter partially enclosed at an estimated cost differential of approximately $1.5 million for a total project cost of $21.5 versus $23 million in today's dollars.

Options 4 and 5 provided appreciable advantages, such as improved work flows and consolidation of mail operations. However, the options were discounted and rejected because of other operational shortcomings, operational disruptions during construction, and the potential for accessibility liabilities and cost restrictions.

Option 6 is the no action option and although it requires no additional capital to combine the programs, the option does not account for efficiency and security of the workload. Additional investments would still be required to address system deficiencies of the HVAC and fire systems.

The proposed project schedule is based on using the Design-Build procurement method. Overlap occurs between design and construction enabling the project to move forward for approval of funding. An expedited permitting and construction schedule enables completion of the project by the end of June 2023 reducing the escalated costs of the project.

Manager Yoder invited questions from the committee.

Representative Kraft asked whether any analysis was conducted on the gain or loss of operational efficiencies by not combining the programs versus combining the programs. Manager Bernard affirmed analysis was completed on the benefits to collocating. Monetizing estimates have not been completed. Other factors considered were transportation costs between the facilities for transferring materials. Monetizing the operational facilities would account for staff and operational expenditures, which have not been analyzed at this time. Representative Kraft asked whether other operational efficiencies could be gained in addition to transportation costs. Manager Bernard advised that labor and workflow efficiencies could be achieved in the packing and movement of materials between the facilities.

Mark Neary said the Secretary of State would like to be included in the planning as the facility houses federal documents for the state library, as well as some historical collections. The timeline reflects completion of the project prior to the completion of the new library archives building. He stressed the importance of being part of the planning process to develop a plan to transition storage materials. The Secretary of State also manages a 50,000 square foot Records Center connected and located south of the facility, which could impact some of the operations for the center. Manager Bernard advised that no impacts are anticipated to the Records Center as construction activities would be confined to the north side of the building. Manager Bernard welcomed further conversations with the Office of the Secretary of State.

Chris Jones moved, seconded by Marc Daily to recommend approval to the State Capitol Committee of the preferred development options and related findings and recommendations, as outlined in the predesign study for the Tumwater Modular Building Print & Mail Facility as prepared by Rolluda Architects and dated 9/2/2020. A roll call vote approved the motion. Representative Kraft voted against.

Assistant Director Frare requested additional information from Representative Kraft on her reason for voting against the request. Representative Kraft explained that her vote was based on two factors. The first is the lack of a compelling argument to combine the two programs while recognizing there could be a possible cost increase by delaying the project. Additionally, because of the state's lack of funds, she does not view the project as a compelling need at this time.

Chair Rolluda assumed the Chair position.

Capital Projects Update – Informational

Chair Rolluda invited Hamed Khalili, Senior Project Manager, to update the committee on the status of several key capital improvement projects.

Manager Khalili reviewed several major campus projects:

- **Building Exterior Improvements – Capitol Court**
  - Restoration of the building's historic windows was completed.
  - Repair and cleaning of the building's tone exterior façade was completed.
  - Large stones of a column were displaced from the 2001 earthquake. Each column stone was removed and anchored to the building structure in its original location.
  - Scaffolding and mesh will be removed by mid-September 2020
  - Planned completion is scheduled at the end of September/October 2020.

Oliver Wu, Project Manager, reviewed the status of the Capitol Child Care Center project. The last update to the CCDAC was during mid-design of the project. The project is three months into construction. Despite some budget decisions, the project maintains six classrooms in a one-story structure supporting state employees and their families. The size of the building was reduced to 9,600 square feet with a goal to serve between 72 and 96 children from toddler to pre-school age. The building has incorporated an eco-friendly design and meets LEED Silver. The roof will feature cross laminated timber. The project includes a commercial-level kitchen and an outdoor nature-based learning playground. Milestone accomplishments include the installation of geopiers and site utilities (stormwater, electrical, low voltage conduit). The slab on grade foundation is underway with exterior framing scheduled to begin in the next several days.

Manager Wu presented the update on the L&I/WSDA Laboratory and Training Center. A majority of the predesign was maintained with the project at mid-design development phase with ZGF Architects. The seven-acre site is undeveloped and located in Tumwater. The building footprint is 53,154 square feet housing laboratories, office spaces, and training classrooms. The project cost is approximately $53 million with total construction cost of $39 million. The project is pursuing a LEED Gold and will be a net-zero ready facility. DES hired Korsmo Construction as the GC/CM. Manager Wu shared several illustrations of the design concept. The site has many trees and the goal is to minimize tree removal to the extent possible. To maintain net-zero ready performance, solar panels will be installed on the roof. The budget does not include funds for the solar panels, but the design will include the option along with the infrastructure. Several laboratories are included in the facility with different functions for the Department of Agriculture and Labor and Industries. A common space is included for both agencies serving as a lunch room with views to the forested area.

Senator Hunt asked about the amount of power generated by the solar panels. Manager Wu explained how solar panels are designed to achieve only net-zero performance. The initial cost estimated during the schematic design phase was approximately $3 million to add solar panels.

Chair Rolluda asked about the timeline for completion of the child care facility. Mr. Bernard said the scheduled completion date is April 2021.

Representative Kraft asked how the costs of the solar panel would offset energy costs. Manager Wu explained that the concept is to offset all energy costs for the building.

Chair Rolluda asked whether the project requires replanting of trees to replace the trees removed for the project as mitigation. Mr. Bernard offered to forward the information from the design team on the number of tree required to be replaced.

Update on 2021-23 Capital Planning Process – *Informational*
Chair Rolluda invited Assistant Director Frare to update members on the status of the 2021-2023 capital planning process.

Assistant Director Frare cited some of the milestones and challenges DES is contending with. Over the next decade, the campus will celebrate the 100th anniversary of the Legislative Building and Dome completed in 1928. The Temple of Justice was completed in 1920. Many of the East Capitol Campus buildings were constructed approximately 50 years ago. With so many buildings reaching milestones, DES is considering major renovations and rehabilitations for a number of buildings. Infrastructure supporting the campus is old, outdated, and no longer meets energy and environmental goals. Parking on campus continues to be an issue with parking at capacity during the legislative session. DES is installing more electrical vehicle charging stations to ensure support of electric and emission-free vehicles. As the campus sits on a bluff, many of the steep slopes are unstable with historic landslides occurring next to the Pritchard Building and another landslide above the Power House extending into the Governor Mansion's lot. A solider pile retaining wall was installed to reinforce the GA Building when it was constructed. The Conservatory located along the hillside next to the GA Building has moved approximately half an inch a year, which is why DES is demolishing the structure. Slope stability continues to be a major concern. A recent assessment was completed for the campus on physical security and safety improvements. A number of projects have been identified to increase safety on the campus.

Based on the volume of need, the capital budget request was categorized into four major themes: (1) Planning and Preparing for the Future, (2) Building System Replacement, Renovation, and Repair, (3) Utility and Infrastructure Replacement, Renovation, and Repair and (4) Physical Security and Safety Improvements. Planning for the future includes numerous projects underway including the new OIC Building, Legislative Campus Modernization project, Tumwater Modular Building, and a request for a fleet services facility predesign to evaluate programmatic needs and evaluate potential locations for a new fleet facility. DES is also planning for Office Building 2 preservation by exploring alternatives to renovate essential building systems. The Capitol Lake Deschutes Estuary Long-Term Management Plan is underway with an element not funded at this time.

Another need is completion of a new Capitol Campus Master Plan to provide an overall vision and strategies for sound, technical, and fiscal decision-making. The plan would consider current needs and deficiencies balanced against growing future demands and should consider all planning documents completed or currently in progress, such as the Next Century Capitol Campus Predesign of the power plant and a new central heating and cooling district. The Employment Security Building design was presented to the committee last year. A predesign is in process for the Transportation Building. The committee previously received a briefing on the Office of the Insurance Commissioner's Office Building predesign. Other planning efforts include the Campus Physical Security and Safety Assessment, Elevator Modernization Program, and the Capitol Campus Utility Renewal Plan. Those planning efforts should be sequenced and harmonized into a larger plan moving forward that is supported by both the Executive Branch and the legislative branch through an effective master planning process.

Over the last several years, DES has assessed the condition of elevators on campus. DES is responsible for approximately 80 elevators. A number of elevators are old and are in poor condition and need to be replaced. A list of priority elevators served as the basis for an elevator program identifying each elevator and year for replacement to serve as information for the Legislature.

Some renovation projects include the John Cherberg Building scheduled for exterior cleaning and preservation and roof replacement of the Old Capitol Building near Sylvester Park in downtown Olympia.

A number of projects are included in the Utility Infrastructure and Replacement Program. Capitol Campus Energy Loop is a high voltage loop providing continuous energy to all campus buildings. The infrastructure is scheduled for an update to current codes. The Legislative Building south parking lot utility and drainage is one of several drainage, fresh water, sewer, and stormwater projects necessary on the campus. The East Campus Water Infiltration projects included the recently completed segment of the Plaza Garage Roof Repair to include new landscaping on the roof. The next segment of the project is the Halprin Fountain and the Korean Memorial. Repairs are necessary to the Capitol Lake Dam. Next year, DES is requesting funds for the Capitol Campus Combined Heat and Power Plant project. The important project provides heat and cooling to all buildings on campus. The Physical Security and Safety Improvements project includes a distributed antenna system campus-wide, some exterior door repairs, infrastructure improvements, increased barrier protection across the campus, and safety rails for the Temple of Justice and the Legislative Building. DES instituted internal processes to evaluate all campus needs across all DES divisions. Staff evaluated and prioritized projects in accordance with employee and public health and safety, level of risk to employees, building code compliance, economic savings, facility longevity, energy sustainability, urgency level, strategic alignment to the agency's strategic plan/master plan, project execution status (shovel ready), impacts to the core campus infrastructure, and staging and swing space requirements.

Assistant Director Frare invited questions from members.

Senator Hunt asked about the status of external cleaning of the Insurance Building. Assistant Director Frare reported DES released bids for the project with work scheduled soon.

Chair Rolluda asked whether a schedule has been developed for the Master Plan. Assistant Director Frare advised that the Master Plan project is included in the budget request of $1.3 million for the master planning effort.

Public Comments – *Informational*

Chair Rolluda requested a summary of any public comments.

Rose Hong reported two public comments were received. The first comment was a request from the South Capitol Neighborhood Association to learn more about the project and the opportunity to provide input.

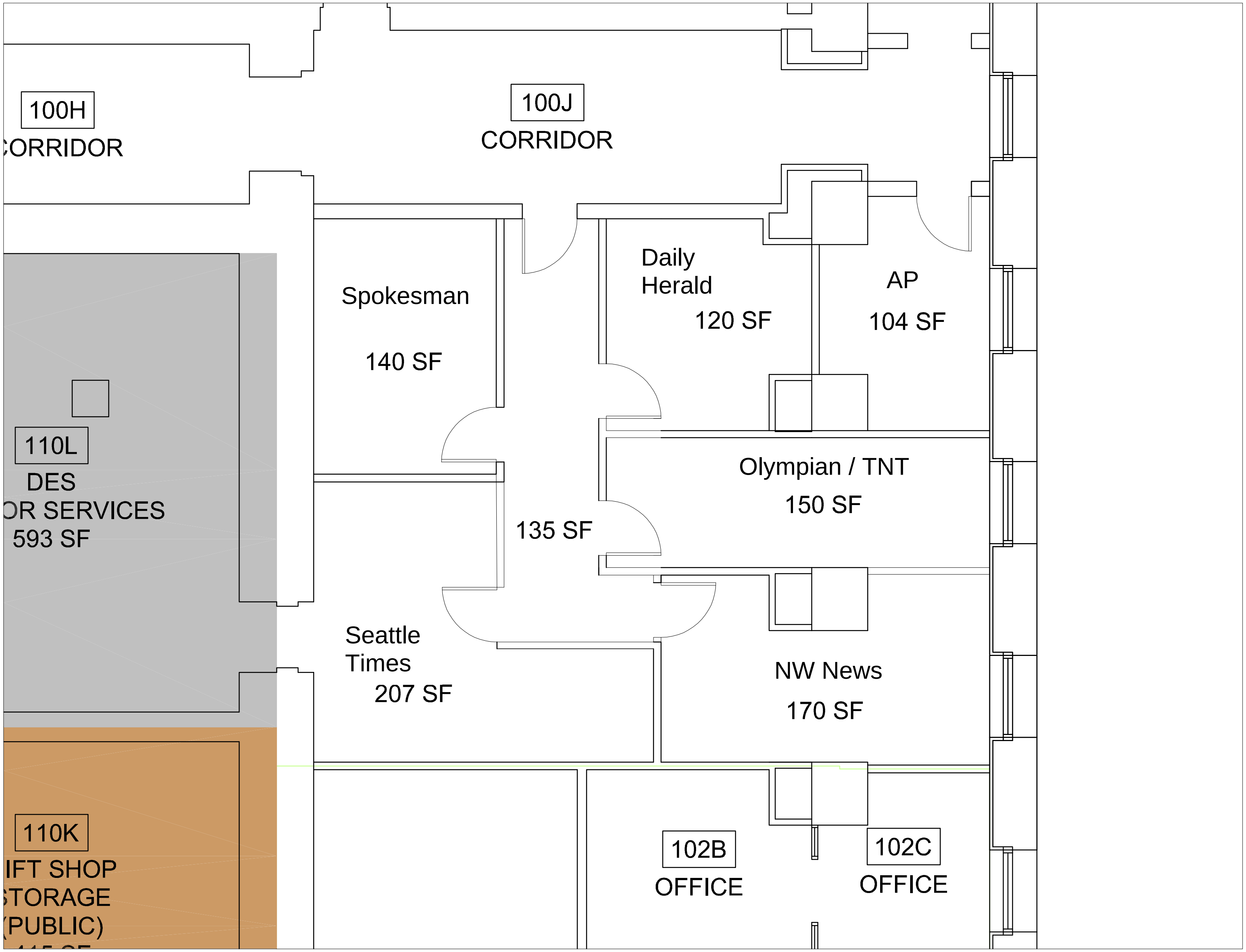
A second comment was a request to consider the historic integrity of the Wilder and White Plan and the buildings and grounds for all current future development on the campus and to allow the public to provide input in the planning process for the future of the campus, as well as consider updating the 2006 Master Plan.

Next Meeting – *Informational*
The next meeting of the State Capitol Committee (SCC) is on Thursday, October 15, 2020 at 10 a.m. and the next CCDAC meeting is scheduled on Thursday, November 5, 2020 at 10 a.m. Both meetings are remote access meetings. For more information, visit the SCC and CCDAC website for meeting dates, minutes, and meeting agendas.

Adjournment - *Action*
With there being no further business, Chair Rolluda adjourned the meeting at 12:21 PM

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

Approved by CCDAC on 11/05/2020 with modifications.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MITHŪN

2018 INTERNATIONAL BUILDING CODE ANALYSIS

Project:	**LCM – Newhouse & Pritchard**	Mithun Job #	**181000**
Jurisdiction	**City of Olympia**	DES Project #:	**18-527**

Title	***2018 IBC Section/ Table***	***Requirements***
Any IBC Code amendments		Washington State 51-50 WAC
IBC Appendix adopted		D, E, G, J
Other Applicable Codes		— IMC — UPC — International Energy Conservation Code/Washington Commercial Energy Code — Washington State Commercial Energy Code, Chapter 51-11C WAC — International Fire Building Code
Occupancy Classification(s)	**Chapter 3**	
Assembly Group A	S303	A-3, Assembly uses, including rooms with area great than 750 sf.
Business Group B	S304	Civic administration and professional services
Storage Group S	S311	S-2 low hazard
Building Heights and Area	**Chapter 5**	
Allowable Height and Building Area	T504.3	Steel or Concrete - Occupancy group B and construction type IIB – 75 feet and sprinklered
Allowable Number of Stores Above Grade Plane	T504.4	Steel or Concrete - Occupancy group B and construction type IIB – 4 and sprinklered
Sprinkler Increase (height)	S504.2	NFPA 13 Sprinklers and Section 903.3.1.3
Roof Structures	S504.3	Exception: The structures shall be constructed of noncombustible material and shall not exceed more than 20 feet.
Equipment Platforms	S505.3	Unoccupied elevated platform used exclusively for supporting mechanical systems or industrial equipment. Not a part of a mezzanine.

Allowable Area	T506.2	Steel or Concrete - Occupancy group B and construction type IIA – 112,500 sf and sprinklered, IIB – 69,000 sf and sprinklered
Area Modifications	S506.1	$A_a = [A_t + (NS \times I_f)] \times S_a$ $A_a = [69{,}000+(23{,}000 \times .75)] \times 4$ $A_a = 345{,}000$ $A_a = [A_t + (NS \times I_f)] \times S_a$ $A_a = [69{,}000+(23{,}000 \times .75)] \times 3$ $A_a = 258{,}750$
Frontage Increase (area)	S506.2	$I_f = [518/518-0.25]\ 30/30$ $I_f = .75$ $I_f = [699/699-0.25]\ 30/30$ $I_f = .75$
Area Determination	S506	Single occupancy building 345,000 sf Newhouse Single occupancy building 258,750 sf Pritchard
Accessory Occupancies	S508.2	A-3, Assembly uses, including rooms with area great than 750 sf. S-2 for storage
Non-separated Occupancies	S508.3	Separated use A-3 and S-2 do not require separation
Types of Construction	**Chapter 6**	
Fire Resistive Requirements per Building Element	T601	IIB
Structural Frame		0
Bearing Walls – Exterior		0
Bearing Walls – Interior		0
Non-Bearing Walls – Ext.		0
Non-Bearing Walls – Int.		0
Floor		0
Roof		0
Construction Classification	S602	Type II
Fire Resistive Requirements per Separation Distance	T602	Fire separating distance is greater than 30 feet
Combustible Material in Type I and Type II	S603	Allowable materials per 603
Fire and Smoke Protection	**Chapter 7**	

Structural Members	S704	The fire-resistance ratings of structural members and assemblies shall not be less than the ratings required or the fire-resistance-rated assemblies supported by the structural member.
Fire Barriers	S707	Shafts comply with 713.4 exit enclosures comply with 1023.1 Enclosures for exit access stairways comply with 713.3 Exit passageways comply with 1024.3 Horizontal exits comply with 1026.6 Incidental uses comply with Table 509 Separated occupancy section 508.4
Shafts	S713	2 hours when connecting 4 stories or more and not less than 1 hour when connecting less than four stories.
Exterior Walls	S713.6	Shaft fire ratings do not apply at exterior walls unless it is for a stair per S1022.7 and/or the exterior wall must be rated for some other reason.
Fire Door Ratings	T716.1	2 hour fire walls requires 1 ½ hour rating 2 hour enclosures for shafts, exterior exit stairways and interior exit ramps require 1 ½ hour rating
Door Assemblies in Corridors	S716.1.2.2.1	Tested per NFPA 252/UL 10C without hose stream test.
Glazing in Door Assemblies	S716.1.2	For 20 minute fire doors.
Self Closing Doors	S716.6.1	Fire doors shall be latching and self- or automatic-closing
Ducts and Air Transfer Openings	S717	Fire and smoke dampers required
Concealed Spaces	S718	Fireblocking and draftstopping required
Interior Finishes	**Chapter 8**	
Wall and Ceiling Finish Requirements	T803.13	Tested per ASTM E84 or UL 723 <u>B Occupancy:</u> Interior Exit Stairways: Class B Exitways: Class C Rooms: Class C <u>A-3 Occupancy:</u> Interior Exit Stairways: Class B Exitways: Class C Rooms: Class C <u>S Occupancy:</u> Interior Exit Stairways: Class C Exitways: Class C Rooms: Class C
Interior Floor Finish	S804.4.2	Tested per ASTM E648 or NFPA 253

Acoustical Ceiling Systems	S808	[Metal suspension systems installed in accordance with ASTM C635 and ASTM C636
Fire Protection Systems	**Chapter 9**	
Required Sprinklers	S901	Complying automatic sprinkler systems are defined in this chapter, and sprinklers are used as reason for a number of height and area modifications and other exceptions throughout the code.
Buildings 55 Feet or more in height	S903.2.11.3	Buildings 55 feet or more in height and have one or more stories with occupant load over 30 or more located 55 feet or more above the lowest level of fire department access
Standpipe Systems	S905	Installed in accordance with NFPA 14 Class I standpipe required Provide in every required interior exit stairway
Portable Fire Extinguishers	S906	Required
Alarm and Detection Systems	S907	Per NFPA 72
Fire Command Center	S911	Location to be approved by fire code official. Separated from remainder of building by 1 hr fire barrier Room shall be not less than 200 sf with a minimum dimension of 10’
Fire Protection	S912, IFC	Review with Fire Marshall
Fire flow		Per Civil Narrative
Fire hydrant locations		Per Civil Narrative
FDC location		Per Civil Narrative
Fire truck access		Within 150’ of any point of building exterior Site plan reviewed with fire marshal
Lane width		26 feet
Hammerheads		Allowed
Turnarounds		Not required. Site plan reviewed with fire marshal
Key box		Required, location to be reviewed by fire marshal
Fire Pumps	S913	Per NFPA 20 To be located in room that is separated from all other areas of the building by 2 hour barriers.
Equipment Room Identification	S914.2	Required signage for fire protection equipment
Emergency Responder Radio Coverage	S918	Required
Means of Egress	**Chapter 10**	

Fire Safety and Evacuation Plans	S1002.2	As required by Sections 401.2 and 404 of the IFC.
Ceiling Height	S1003.2	Not less than 7'-6", Exceptions include Protruding objects per S1003.3.
Protruding Objects	S1003.3	Not less than 80", provide a barrier where the vertical clearance will be less than 80". Also, post-mounted objects and horizontal projections – 4" max. between 27" and 80" AFF.
Elevation Change	S1003.5	Elev. changes less than 12" high allowed
Continuity	S1003.6	Not interrupted by any building element other than a MOE component.
Occupancy / Area	T1004.1.2	Occupant loads based on *uses*, not occupancy groups.
Cumulative Occupant Load	S1004.2	Permitted to have increased loads if all the code requirements are met based on the increased load.
Fixed Seating	S1004.5	Includes loads for benches and booths.
Maximum Floor Area Allowances per Occupant	T1004.5	Business areas: 150 gross Accessory storage areas, mechanical equipment room: 300 gross Assembly without fixed seats assume 15 SF/person net, for tables and chairs, 7 SF/person net, for chairs only, 5 SF/per son net, for standing space.
Outdoor Areas	S104.7	Yards, patios, occupied roofs and courts accessible and usable by the building occupants shall be provided with means of egress.
Posting of Occupant Load	S1004.9	Required for assembly occupancies.
Egress Width - Stairways	S1005.3.1	Stairways = 0.3" per occupant. **Exception:** 0.2" per occupant for buildings other than Group H or I-2 occupancies equipped with sprinklers AND and an emergency voice/alarm communication system per S907.5.2.2.
Egress Width – Other Components	S1005.3.2	Egress components other than stairways = 0.2" per occupant. **Exception:** 0.15" per occupant for buildings other than Group H or I-2 occupancies equipped with sprinklers AND an emergency voice/alarm communication system per S907.5.2.2.
Distribution	S1005.5	Where more than one exit, or access to more than one exit, is required, the means of egress shall be configured such that the loss of any one exit, or access to one exit, shall not reduce the available capacity or width to less than 50 percent of required capacity or width.
Door Encroachment	S1005.7.1	Fully opened doors may encroach no more than 7". Door in any position may encroach no more than half the required width.
Egress based on occupant load and common path of egress travel distance	S1006.2.1	Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1. B occupancy 100 feet with sprinklers

		The number of exits from foyers, lobbies, vestibules or similar spaces need not be based on cumulative occupant loads for areas discharging through such spaces, but the capacity of the exits from such spaces shall be based on applicable cumulative occupant loads
Minimum number of exits or access to exits per story	T1006.3.2	1-500 requires minimum 2 exits based on occupancy per floor (15,130/150=101 occupants) Newhouse (24,800/150=165 occupants) Pritchard
Separation Distance of Exits	S1007.1.1	Where building is equipped throughout with an automatic sprinkler system the separation distance shall be not less than one-third of the length of the maximum overall diagonal dimension of the area served.
Egress Illumination	S1008	Required. Includes exit discharge, illumination to the public way.
Accessible means of egress	S1009	Where more than one MOE are required, each accessible portion of the space shall be served by at least two *accessible* MOE.
Continuity and Components	S1009.2	Accessible routes, interior exit stairways, interior exit access stairways, exterior exit stairways *serving levels other than the level of exit discharge*, elevators, platform lifts, horizontal exits, ramps, areas of refuge, and/or exterior areas for assisted rescue.
Elevators Required	S1009.2.1	Elevator required where a required accessible floor is four or more stories above or below a level of exit discharge.
Accessible Exit Stairways	S1009.3	48" clear width plus area of refuge except for sprinklered buildings.
Areas of Refuge	S1009.3.3	Not required where two-way communication is provided at the elevator landing or if building is equipped with an automatic sprinkler system.
Elevators	S1009.4	Emergency operation and standby power required. Accessed from horizontal exit or area of refuge except for sprinklered buildings.
Two-way Communication	S109.6.5	Required at the elevator landing on each accessible floor one or more stories above or below the story of exit discharge.
Exterior Area for Rescue	S1009.7	Accessed from an accessible route. Required where the exit discharge does not include an accessible route to a public way.
Signage	S1009.9	Required at areas of refuge and exterior areas for assisted rescue.
Directional Signage	S1009.10	Required at exits which are not accessible, elevator landings, and within areas of refuge.
Instructions	S1009.11	Required at areas of refuge and exterior areas for assisted rescue.
Doors and Gates	S1010	Clear width of 32" minimum. Maximum door leaf size is 48". Height of doors should be no less than 80".
Floor Elevation	S1010.1.5	Level floor or landing on each side of a door. See exceptions.

Landings at Doors	S1010.1.6	Not less than the width of the stairway or door, whichever is greater. Door encroachment limited.]
Thresholds	S1010.1.7	1/2” maximum, see exceptions.
Stairway Doors	S1010.1.9.12	Openable from both sides without key or special effort. See exceptions.
Panic Hardware	S1010.1.10	[Required at Group H and serving rooms or spaces with an occupant load of 50 or more in Group A or Group E.]
Stairways	S1011	Applies to all stairways serving occupied portions of a building.
Stairway Width	S1011.2	36” minimum serving less than 50 occupants, 44” minimum serving 50 or more.
Stairway Headroom	S1011.3	80” minimum vertically from nosings.
Treads and Risers	S1011.5	Maximum riser (7”), minimum tread (11”), nosing profile, solid risers.
Landings	S1011.6	Width of landings not less than width of stair, straight run landings need not exceed 48”, door projections.
Stairway Construction	S1011.7	Walking surface, allowable slopes, outdoor conditions, enclosures under stairs.
Stairway to Roof	S1011.12	Required for buildings four or more stories above grade plane. May use an alternating tread device for unoccupied roofs. Provide a penthouse except for unoccupied roofs, which may use a hatch. Hatches within 10’ of the roof edge require guards.
Stairway to Elevator Equipment	S1011.12.1	Roofs and penthouses containing elevator equipment must be accessed by a stairway, can’t be an alternating tread device or ladder, need a penthouse.
Ramps	S1012	Enclosures (similar to stair requirements), slope (1:12 max for MOE, suggest allowing for construction tolerances), review section for cross slope, maximum rise, minimum dimensions, etc.
Ramp Landings	S1012.6	Required at top, bottom, points of turning, entrances, exits, and doors. Width, length, ramp surface, outdoor conditions, etc.
Ramp Handrails	S1012.8	Required both sides for rise greater than 6”.
Ramp Edge Protection	S1012.10	Required at ramp edges and sides of ramp landings. See Exceptions. Provide curb, rail, wall, or barrier – or extend floor or ground surface.
Exit Signs	S1013	Required. Note S1013.4 raised character and Braille exit sign requirements.
Handrails	S1014	Measured from the nosing or ramp surface, no less than 34” and no more than 38”. Diameter no less than 1.25” and no more than 2”, other criteria for shapes other than round. When not continuous, handrails must have extensions in the same direction of the stair flights or ramp runs. Extensions must return to a wall, guard, or the walking surface.
Projections	S1014.8	Projections into ramps and the required width of stairs is allowable up to 4 ½” each side at the height

		of handrails or below. Ramps must have 36" clear between handrails.
Intermediate Handrails	S1014.9	All portions of the required width of stair must be within 30" of a handrail. Required widths of greater than 60" will require an intermediate handrail.
Guards	S1015	Required along open-sided walking surfaces located more than 30" to the floor or grade below at any point within 36" horizontally to the edge of the open side. Minimum 42" high (suggest slightly higher). Opening limitations.
Mechanical Equipment	S1015.6	Guards required where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10' of a roof edge or open side of a walking surface more than 30" above the floor, roof, or grade below. Exception: Guards are not required where personal fall arrest anchorage connector devices that comply with ANSI/ASSE Z359.1 are installed.
Roof Access	S1015.7	Guards are required at roof hatches located within 10' of a roof edge. Exception: Guards are not required where personal fall arrest anchorage connector devices that comply with ANSI/ASSE Z359.1 are installed.
Intervening Rooms	S1016.2	Egress through adjoining rooms or spaces not allowed unless such spaces are accessory to each other.
Exit Access Travel Distance	T1017.2	B Occupancy: 300 feet with sprinkler system A Occupancy: 250 feet with sprinkler system
Measurement Exit Travel Distance	T1017.3	Measured from the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit. This distance includes exit access stairways and ramps.
Aisles	S1018	Egress path between seats, tables, furnishings, displays and similar fixtures and equipment. For Assembly, see S1028.
Exit Access Stairways	S10019	Defined as an interior stairway that is not a required *interior exit stairway*, though it may serve as part of the route for exit access. Allowed to be unenclosed between two stories (other than Group I-2 and I-3), and generally unenclosed up to four stories with sprinklers and a draft curtain. For Group B or M, can extend more than four stories. Also applies to stairways within atriums.
Corridor Construction	T1020.1	A and B occupancy no rating required if building is equipped throughout with an automatic sprinkler system.
Corridor Width	S1020.2	Per 1005, but no less than 44" except for occupant loads less than 50 can be 36".
Corridor Dead Ends	S1020.4	50' for Groups B with sprinklers.
Corridor Continuity	S1020.6	Fire-rated corridors continuous to AN exit.

		Exception: Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.
Exits	S1022	Maintain level of protection to Exit Discharge.
Number of Exits Required	S1022	Two exits minimum from every story except per Three exits from stories with an occupant load over 500, four exits with load greater than 1,000.
Interior Exit Stairways and Ramps	S1023	Rated enclosure required, see requirements for termination, openings, penetrations, ventilation, exterior walls, barrier gates, signage, smokeproof and pressurized enclosures.
Exit Passageways	S1024	Extends Exit Stairway to exterior. Not less than 44", less than 50 occupants can be 36".
Horizontal Exits	S1026	Fire wall or fire barrier, extends vertically through building unless floor assemblies are 2 hour. Horizontal exits cannot serve as more than half the required exits.
Exit Discharge	S1028	Directly to exterior of the building, at grade or direct access to grade. Exceptions to exit through areas or vestibule on the level of exit discharge.
Egress Courts	S1028.4	No protection requirements if more than 10' wide.
Access to Public Way	S1028.5	Direct and unobstructed access. Exception for safe dispersal area at least 50' from the building.
Assembly main exit	S1029.2	Main exit required for occupant load greater than 300, should be wide enough to accommodate one-half of occupant load.
Accessibility	**Chapter 11**	See also ANSI A117.1
Scoping Requirements	S1103	Sites, buildings, structures, facilities and spaces must typically be accessible. This section lists or references the very few exceptions to this requirement.
Accessible Route	S1104	At least one route from parking, public transportation stops, and public streets or sidewalks to entry.
Multilevel Buildings	S1104.4	At least one accessible route must connect each accessible level, including mezzanines.
Location	S1104.5	Accessible routes shall coincide with or be located in the same area as a general circulation path.]
Accessible Entrances	S1105	At least 60% of all *public* entrances must be accessible. Note also requirements for *restricted* entrances and *service* entrances.
Parking and Passenger Loading Facilities	S1106	Accessible parking spaces, van spaces, passenger loading zones must be provided.
Special Occupancies	S1108	
Toilet and Bathing Facilities	S1109.2	Each toilet and bathing room shall be accessible. See exceptions.
Water Closet Compartments	S1109.2.2	At least At least 5%, and not less than one must be wheelchair accessible. When six or more

		waterclosets and urinals are provided in a toilet room, at least 5% shall be ambulatory-accessible.
Lavatories	S1109.3	At least 5%, not less than one lavatory shall be accessible. Where six or more lavatories are provided in a toilet room, at least one must be provided with enhanced reach ranges.
Sinks	S1109.3	[At least 5%, not less than one shall be accessible. Mop or service sinks are not required to be accessible.
Kitchens and Kitchenettes	S1109.4	Where provided in accessible spaces or rooms, they must be accessible.
Drinking Fountains	S1109.5	When drinking fountains are provided, at least two shall be provided – one for people standing and one at wheelchair height. When more than two are provided, 50% must be at wheelchair height.
Elevators	S1109.7	Passenger elevators on an accessible route shall be accessible.
Storage	S1109.9	Where fixed or built-in storage elements such as cabinets, coat hooks, shelves, lockers, closets and drawers are provided in required accessible spaces, at least 5% but not less than one of each type shall be accessible.
Seating at Tables, Counters and Work Surfaces	S1109.11	Where provided in required accessible spaces, at least 5% but not less than one shall be accessible.
Service Facilities	S1109.12	Dressing rooms, fitting rooms, locker rooms, check-out aisles, point of service, food service, etc, at least 5% but not less than one shall be accessible.
Signage	S1111	Accessible parking spaces, passenger loading zones, etc.
Interior Environments	**Chapter 12**	Applicable ventilation, temperature, lighting and sound transmission provisions.
Energy Efficiency	**Chapter 13**	Comply with Washington State Energy Code
Exterior Walls	**Chapter 14**	Applicable definitions: Stone (natural), concrete
Roof Assemblies	**Chapter 15**	
Fire Classification	S1505	Class B
Rooftop Structures	S1510	Penthouses, tanks, cooling towers, towers, spires, domes, cupolas, mechanical equipment screens, photovoltaic systems.
Area Limitation	S1510.1.1	The aggregate area of penthouses and other enclosed rooftop structures shall not exceed on-third the area of the supporting roof deck. Such penthouses shall not be required to be included in determining the building area or number of stories.
Height Above Roof Deck	S1510.2.1	Height shall not exceed 18 feet above the roof deck
Mechanical Equipment Screens	S1510.6	Height shall not exceed 18 feet above the roof deck
Structural Design	**Chapter 16**	Refer to Structural Narratives

Special Inspections and Tests	**Chapter 17**	Refer to Structural Narratives
Soils and Foundations	**Chapter 18**	Refer to Structural Narratives
Building materials requirements and standard	**Chapter 19-26**	
Electrical	**Chapter 27**	Refer to Electrical Narrative
Mechanical	**Chapter 28**	Refer to Mechanical Narrative
Plumbing	**Chapter 29**	Refer to Plumbing Narrative
Minimum Plumbing Fixtures	S2902	
Water Closets	T2902.1	B Occupancy 1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 =164/2 occupants = 2+1 = 3 each male and female =101/2 occupants = 1+1 = 2 each male and female
Lavatories	T2902.1	B Occupancy 1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80 =164/2 occupants = 2+1 = 3 each male and female =101/2 occupants = 2 = 2 each male and female
Drinking Fountains	T2902.1	B Occupancy 1 per 100 =277 occupants = 3
Elevators and Conveying Systems	**Chapter 30**	See also ASME A17.1 for elevators.
Hoistway Enclosures	S3002	Shaft enclosures per S712 and S713, opening protectives per Chapter 7, max. of four cars per hoistway, emergency signs, ambulance stretcher requirements, etc.
Emergency Operations	S3003	Standby power
Hoistway Venting	S3004	Vents required for elevators penetrating more than three stories. See exceptions.
Machine Rooms	S3005	Requirements for access, venting, pressurization, rated enclosure. Also applies to control rooms or closets.
Occupant Evacuation Elevators	S3008	Permitted specifically for high-rise buildings per S403.6.2 but also generally allowed, though there are numerous requirements.
Automatic Vehicular Gates	S3110	[Requirements for automatic vehicular gates.]

Average House Offices (Existing)

No.	Size (nsf)	Subtotal (nsf)	Location
1	154	154	O'Brien 3rd Floor
1	147	147	O'Brien 3rd Floor
3	121	363	O'Brien 3rd Floor
6	120	720	O'Brien 3rd Floor
1	139	140	O'Brien 3rd Floor
1	124	124	O'Brien 3rd Floor
9	119	1071	O'Brien 3rd Floor
1	170	170	O'Brien 3rd Floor
1	115	115	O'Brien 3rd Floor
1	122	122	O'Brien 3rd Floor
2	113	226	O'Brien 3rd Floor
1	117	117	O'Brien 3rd Floor
2	166	332	O'Brien 3rd Floor
1	157	157	O'Brien 4th Floor
1	148	148	O'Brien 4th Floor
3	124	372	O'Brien 4th Floor
3	121	363	O'Brien 4th Floor
3	119	357	O'Brien 4th Floor
1	140	140	O'Brien 4th Floor
8	120	960	O'Brien 4th Floor
4	122	488	O'Brien 4th Floor
1	170	170	O'Brien 4th Floor
1	117	117	O'Brien 4th Floor
4	118	472	O'Brien 4th Floor
1	114	114	O'Brien 4th Floor
1	115	115	O'Brien 4th Floor
1	159	159	O'Brien 4th Floor
1	166	166	O'Brien 4th Floor
1	162	162	Leg 1st Floor
3	167	501	Leg 1st Floor
1	168	168	Leg 1st Floor
1	171	171	Leg 1st Floor
1	364	364	Leg 3rd Floor
1	251	251	Leg 3rd Floor
1	371	371	Leg 3rd Floor
1	259	259	Leg 3rd Floor
1	194	194	Leg 4th Floor
7	196	1372	Leg 4th Floor
1	202	202	Leg 4th Floor
1	181	181	Leg 4th Floor
1	180	180	Leg 4th Floor
1	203	203	Leg 4th Floor
2	197	394	Leg 4th Floor
1	412	412	Leg 4th Floor
1	410	410	Leg 4th Floor
Total 90		13,894	
Average	154.4		
Median	122		

*does not include eight ~80 SF offices on south end of 1st floor of Leg

O'Brien office under 140 SF 52

	Total Offices	Total SF	Average
O'Brien	64	8099	126.547
Leg	26	5795	222.885

Average House Offices - relocate 35 JLOB offices

No.	Size (nsf)	Subtotal (nsf)	Location
35	**205**	7175	new construction
2	**165**	330	enlarge JLOB offices - 3rd flr
1	**154**	154	enlarge JLOB offices - 3rd flr
2	**150**	300	enlarge JLOB offices - 3rd flr
1	**190**	190	enlarge JLOB offices - 3rd flr
2	**240**	480	enlarge JLOB offices - 3rd flr
1	**245**	245	enlarge JLOB offices - 3rd flr
3	**250**	750	enlarge JLOB offices - 4th flr
1	**264**	264	enlarge JLOB offices - 4th flr
2	**150**	300	enlarge JLO
2	**246**	492	enlarge JLOB offices - 4th flr
2	**240**	480	enlarge JLOB offices - 4th flr
1	157	157	O'Brien 3rd Floor
1	149	149	O'Brien 3rd Floor
1	172	172	O'Brien 3rd Floor
2	167	334	O'Brien 3rd Floor
1	157	157	O'Brien 4th Floor
1	149	149	O'Brien 4th Floor
1	170	170	O'Brien 4th Floor
1	159	159	O'Brien 4th Floor
1	167	167	O'Brien 4th Floor
1	162	162	Leg 1st Floor
3	167	501	Leg 1st Floor
1	168	168	Leg 1st Floor
1	171	171	Leg 1st Floor
1	364	364	Leg 3rd Floor
1	251	251	Leg 3rd Floor
1	371	371	Leg 3rd Floor
1	259	259	Leg 3rd Floor
1	194	194	Leg 4th Floor
7	196	1372	Leg 4th Floor
1	202	202	Leg 4th Floor
1	181	181	Leg 4th Floor
1	180	180	Leg 4th Floor
1	203	203	Leg 4th Floor
2	197	394	Leg 4th Floor
1	412	412	Leg 4th Floor
1	410	410	Leg 4th Floor
Total 90		18,569	
Average	206.3		
Median	210		
Range **149 - 264**		w/o **4** leadership Leg offices & **8** very small Leg offices	

New Building	35	7175	205
O'Brien	29	3741	129
Leg	26	5795	222.885
	90		

Average Senate Offices (Existing)

No.	Size (nsf)	Subtotal (nsf)	Location
1	188	188	Newhouse 1st Floor
1	200	200	Newhouse 1st Floor
1	197	197	Newhouse 1st Floor
3	199	597	Newhouse 1st Floor
1	273	273	Newhouse 1st Floor
1	198	198	Newhouse 1st Floor
1	205	205	Newhouse 1st Floor
1	193	193	Newhouse 1st Floor
1	190	190	Newhouse 2nd Floor
1	189	189	Newhouse 2nd Floor
1	200	200	Newhouse 2nd Floor
1	305	305	Newhouse 2nd Floor
1	176	176	Newhouse 2nd Floor
1	260	260	Cherberg 2nd Floor
1	163	163	Cherberg 2nd Floor
1	251	251	Cherberg 2nd Floor
1	290	290	Cherberg 2nd Floor
1	308	308	Cherberg 2nd Floor
1	221	221	Cherberg 2nd Floor
1	288	288	Cherberg 2nd Floor
1	245	245	Cherberg 2nd Floor
1	155	155	Cherberg 2nd Floor
1	231	231	Cherberg 2nd Floor
1	155	155	Cherberg 2nd Floor
1	231	231	Cherberg 2nd Floor
1	203	203	Cherberg 2nd Floor
1	228	228	Cherberg 2nd Floor
1	270	270	Cherberg 2nd Floor
1	254	254	Cherberg 2nd Floor
1	276	276	Cherberg 3rd Floor
1	284	284	Cherberg 3rd Floor
1	300	300	Leg 3rd Floor
1	554	554	Leg 3rd Floor
1	301	301	Leg 3rd Floor
1	297	297	Leg 3rd Floor
1	198	198	Leg 4th Floor
1	189	189	Leg 4th Floor
1	197	197	Leg 4th Floor
2	203	406	Leg 4th Floor
1	205	205	Leg 4th Floor
1	208	208	Leg 4th Floor
1	210	210	Leg 4th Floor
1	201	201	Leg 4th Floor
3	196	588	Leg 4th Floor
Total 49		11,278	
Average	230.2		

	Total Offices	Total SF	Average
Newhouse	15	3111	207.4
Cherberg	18	4313	239.6111
Leg	16	3854	240.875

Average Senate Offices - Newhouse replacement

No.	Size (nsf)	Subtotal (nsf)	Location		
15	**235**	3525	new construction	15	new
1	260	260	Cherberg 2nd Floor	18	JAC
1	163	163	Cherberg 2nd Floor	16	Leg
1	251	251	Cherberg 2nd Floor	49	
1	290	290	Cherberg 2nd Floor		
1	308	308	Cherberg 2nd Floor		
1	221	221	Cherberg 2nd Floor		
1	288	288	Cherberg 2nd Floor		
1	245	245	Cherberg 2nd Floor		
1	155	155	Cherberg 2nd Floor		
1	231	231	Cherberg 2nd Floor		
1	155	155	Cherberg 2nd Floor		
1	231	231	Cherberg 2nd Floor		
1	203	203	Cherberg 2nd Floor		
1	228	228	Cherberg 2nd Floor		
1	270	270	Cherberg 2nd Floor		
1	254	254	Cherberg 2nd Floor		
1	276	276	Cherberg 3rd Floor		
1	284	284	Cherberg 3rd Floor		
1	300	300	Leg 3rd Floor		
1	554	554	Leg 3rd Floor		
1	301	301	Leg 3rd Floor		
1	297	297	Leg 3rd Floor		
1	198	198	Leg 4th Floor		
1	189	189	Leg 4th Floor		
1	197	197	Leg 4th Floor		
2	203	406	Leg 4th Floor		
1	205	205	Leg 4th Floor		
1	208	208	Leg 4th Floor		
1	210	210	Leg 4th Floor		
1	201	201	Leg 4th Floor		
3	196	588	Leg 4th Floor		
Total 49		11,692			
Average	238.6				
Range **155 - 308**		w/o very large leadership office in Leg			

	Total Offices	Total SF	Average
Newhouse Replacement	15	3525	235
Cherberg	18	4313	239.6111
Leg	16	3854	240.875

2.0 CAMPUS NEEDS

Opportunity Sites 1, 5, 6, and 12 lie within the contiguous boundary of the Washington State Capitol.

- Site 1, 5 and 6 are on the west campus, where development of the capitol began while Washington was still a territory. Bordering the north and south edges of the historic campus they are at the transition between the state capitol and its surrounding urban context.
- Site 12 is on the north edge of the east campus where all new development occurred between construction of Pritchard and the new building at 1063 Capitol Way. Site 12 is separated from the campus grounds by parking lots and city roadways and is surrounded by commercial property in downtown Olympia.

The buildings and grounds of the West Capitol Campus were listed on the National Register of Historic Places in 1979 as a historic district.

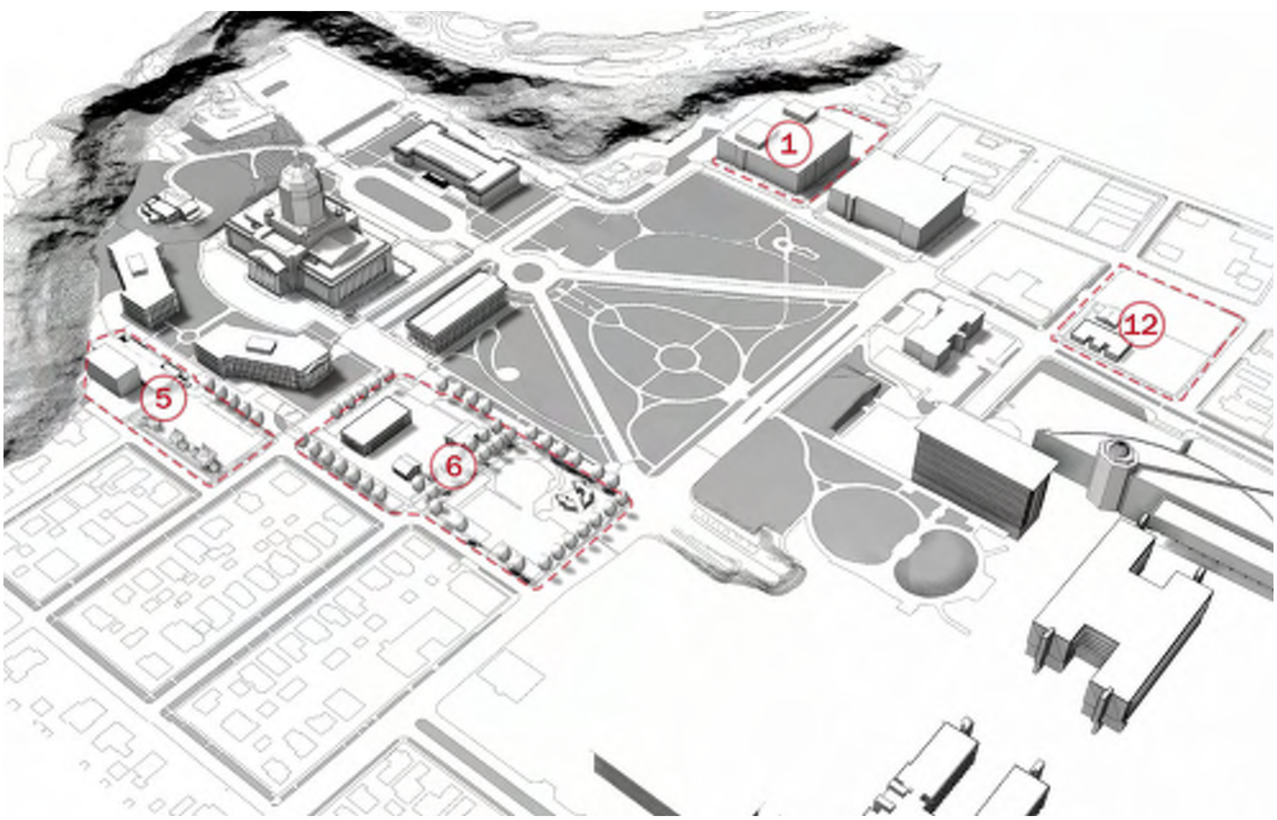

FIGURE 2-1 OPPORTUNITY SITES 1, 5, 6 & 12

STATE CAPITOL HISTORY

The main campus of the Washington State Capitol is located along the west and east sides of Capitol Way in downtown Olympia. The Territorial Capitol located here in 1855, starting a 160-year history of development. The Governor's Mansion, the first of the existing historic buildings, was built on what is today called the west capitol campus in 1908.

Wilder & White, architects and the Olmsted Brothers, landscape architects, prepared the master plan for the grounds and the buildings in the historic campus core called the capitol group. The plan was implemented over four decades starting with the Temple of Justice in 1913 and ending with the O'Brien Building in 1940. An office building planned to replace the Governor's Mansion west of the Legislative Building was never constructed.

Four additional facilities were erected on the west capitol campus: Newhouse, 1934; Conservatory, 1939; and the Pritchard Building and the General Administration Building in the 1950s. No new buildings were constructed on the west capitol campus for nearly sixty years until the 1063 Block project, which will be completed in 2017.

In the interim, all major campus development occurred on the new portion of the campus, east of Capitol Way. In the 1960s and 70s, large office buildings and garages were erected for executive agencies. The Natural Resources Building was completed in 1992 and the 1500 Jefferson Street Building in 2011.

JURISDICTION

The state has authority to regulate land use at the State Capitol. The capitol is exempt from the City of Olympia's land use code.

DEVELOPMENT GUIDELINES

STATE CAPITOL MASTER PLAN

The 2006 State Capitol Master Plan provides a cohesive vision for the campus. It embodies a values-oriented approach to create a broad framework for consensus, based on Guiding Principles, Policies, Guidelines, and Plans.

Historical Landscape Preservation Plan

The 2009 West Capitol Campus Historic Landscape Preservation and Vegetation Management Plan provides guidelines for landscape preservation and vegetation management based on the Olmsted Brothers' and Wilder & White's original design goals.

South Edge Sub-Campus Plan

The 2007 South Edge Sub-Campus Plan addresses Opportunity Site 6, its relationship to the east capitol campus, Capitol Way, the west capitol campus and the historic residential neighborhood to the south.

USES

The 2006 State Capitol Master Plan addresses the highest and best use of capitol campus properties.

Principle 1 – Public Use and Access indicates that the highest priority is given to uses that serve the needs of state government. It calls for maximizing opportunities for access to and interaction with state government. This includes providing educational opportunities to a broad audience, supporting school curricula, enriching visitor experience, and providing universal access.

Principle 2 – Delivery of Public Services calls for an assessment of the highest and best use of the Opportunity Sites and encourages co-location of services to increase efficiency of operations.

Policy 2.1 Location of State Government Functions indicates that new buildings on the south edge of campus should host functions critical to effective operation of Legislative Building activities, which speaks directly to Opportunity Sites 5 and 6.

The Highest and Best Use Chart in Principle 2 indicates that properties on the west capitol campus, such as Opportunity Site 1, should be for uses critical to the effective operation of the functions in the Legislative Building. It indicates that properties on the east campus, such as Opportunity Site 12 , should be for uses such as state agency headquarters, executive offices and state activities related to the Legislative Building and the west campus.

Principle 6 – Technical Performance indicates that buildings should be flexible to meet office and agency needs and provide environments that contribute to occupant health.

HISTORIC BUILDINGS AND GROUNDS

Principle 4 – Historic Preservation identifies the importance of the state capitol in extending Washington's historic and cultural legacy. It calls for historic preservation practices for long term management in order to preserve the buildings and grounds.

Capitol Group

Principle 5 – Design identifies the central role of the capitol group on the west campus. It calls for the Legislative Building to maintain its position as the dominant element in the composition. It indicates that new buildings should blend with the established style of the west campus noting that they should also be representative of their own era.

The Legislative Building contains offices for the governor, lieutenant governor, state treasurer, the secretary of state, the legislature, as well as chambers for the House and Senate. The master plan states, "The Legislative Building should not be rivaled in size."

It is surrounded by buildings housing all three branches of government as well as the Insurance Building. The composition suggests that the balanced relationships be maintained in future development.

The scale of open spaces in and around the capitol group create a sense of civic identity that reinforces democratic principles and public access.

The capitol group is the primary assembly of government buildings on the west campus. Existing and future development on the north and south sides of the great, central lawn, or greensward, are secondary.

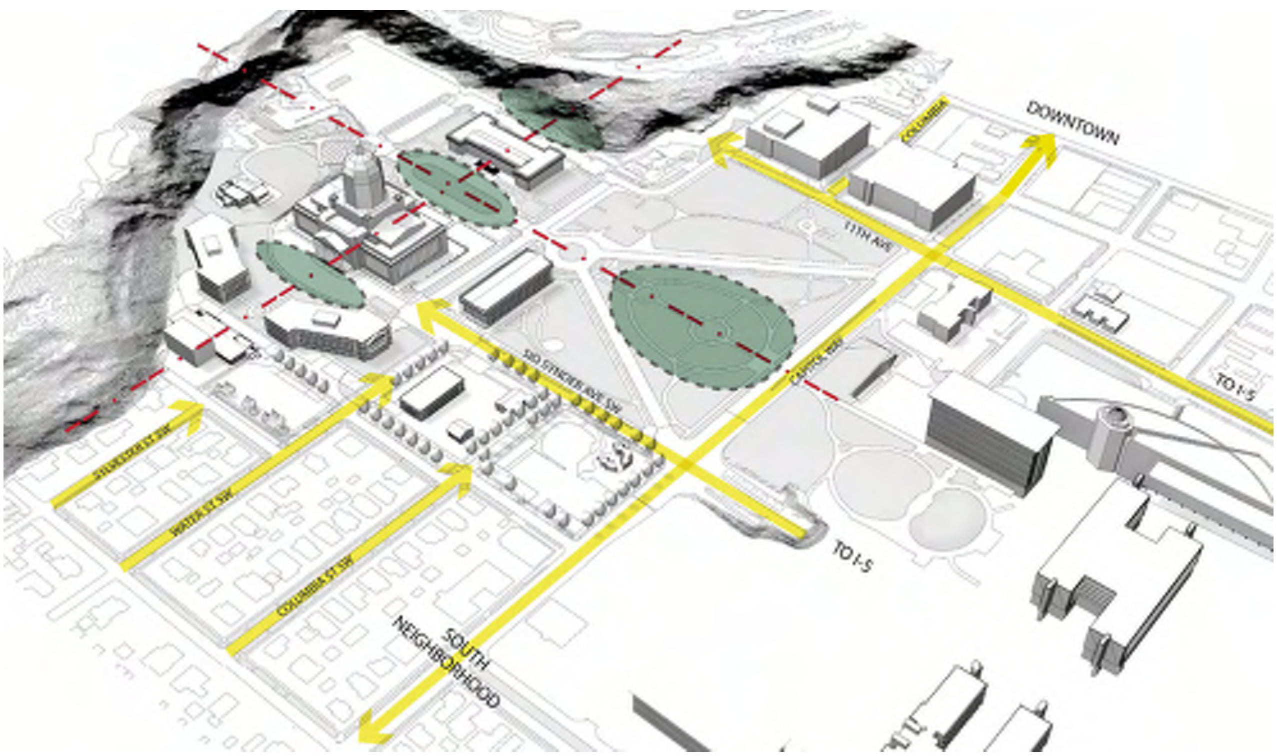

FIGURE 2-2 AXES, GATHERING SPACES & VIEW CORRIDORS AT THE STATE CAPITOL

Olmsted Plan

2009 West Capitol Campus Historic Landscape Preservation and Vegetation Management Plan addresses the open spaces on the west campus. It calls for landscape improvements that strengthen the historic axial organization of the campus, reinforce existing symmetries, preserve or improve views, define campus gateways and reinforce the seams between the campus and the surrounding neighborhoods. It includes phased installation of the original Olmsted planting plan.

LANDSCAPE ZONES

The Olmsted Brothers' plan is organized around four distinct landscape zones.

The capitol group is a formal arrangement of buildings and open spaces. The landscape consists of foundation plantings, rows of street trees and formal beds accentuating axial relationships and symmetrical spaces to "set the tone of decorum and reverence" and relate to the grand scale of buildings and vistas.

The greensward is a foreground to the monumentality of the Legislative Building and a transition from Capitol Way to the capitol group. It contains lawns and meandering informal landscapes.

The street edge is tree-lined along the perimeter of the capitol, defining the relationship with the surrounding urban context. View corridors and pedestrian connections provide access, encouraging recreational use of the generous open spaces by residents and visitors.
The native edge is formed by a grove of conifers on the hillside over Capitol Lake/Lower Deschutes Watershed. It brings the forest onto campus, provides a visual base for the capitol dome when viewed from afar and maintains the hillside's stability. The Olmsteds envisioned it as a buffer between the campus and the residential neighborhood.

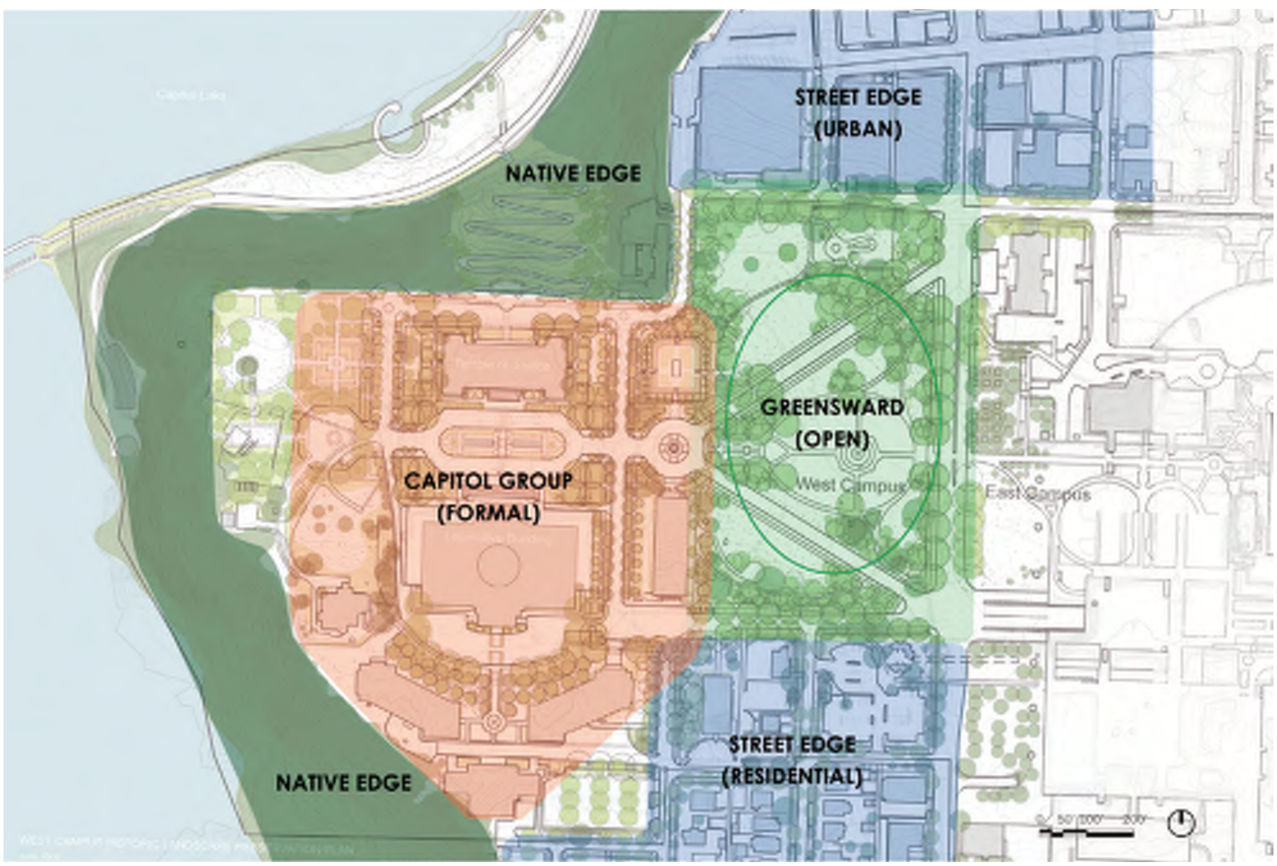

FIGURE 2-3 WEST CAPITOL CAMPUS LANDSCAPE ZONES

CAMPUS GATEWAYS

The Olmsted Plan positions 11th Avenue and Sid Snyder Avenue as the formal gateways into the west capitol campus. The original concept for the entry sequence was based on the notion of “compression and decompression” to create a hierarchical experience of movement and arrival. The tree lined streets create a sense of enclosure that opens up to in the formal spaces around the Capitol Group. An allée of trees on Sid Snyder Avenue frames a view of the capitol dome.

SOUTH EDGE

The 2007 South Edge Sub-Campus Plan provides guidelines for development on Opportunity Site 6 to create strong relationships with the historic capitol group and the adjacent South Capitol Neighborhood. Many of the principles could also be applied to Opportunity Site 5. It calls for:

- Developing Sid Snyder Avenue to facilitate pedestrian movement that connects east and west campuses, and provide setbacks that maintain views to the capitol group.
- Creating open spaces and plazas that provide amenities for the campus and the neighborhood.
- Maintaining pedestrian access on or near Columbia Street.
- Articulating building facades and providing landscape buffers along 15th Avenue to minimize impacts on the residential neighborhood.

SURROUNDING NEIGHBORHOODS

Two important neighborhoods engage the west capitol campus, downtown Olympia to the north and the South Capitol Neighborhood to the south.

State Capitol Master Plan **Principle 5 – Design** calls for the maintenance and enhancement of major view corridors into campus and identifies the importance of creating physical and visual transitions to the urban and natural context along the perimeter of campus.

The 2009 West Capitol Campus Historic Landscape Preservation Plan identifies the need to define gateways and reinforce seams between the campus and its adjacent neighborhoods with attention to pedestrians and views.

HEIGHT AND SETBACKS

The State Capitol Master Plan addresses the height and setbacks for buildings on campus.

Principle 5 – Design calls for the major view corridors to be maintained, sets the O’Brien and Cherberg Buildings as the maximum height for new construction on the west campus and calls for new buildings to be sited as part of the existing open space/landscape pattern.

Policy 5.1 View Corridors indicates that views looking to the Legislative Building from surrounding vantage points, including Capitol Lake/Lower Deschutes Watershed, downtown Olympia and the South Capitol Neighborhood should be protected. Views looking out to the Olympic Mountains, Capitol Lake/Lower Deschutes Watershed, and Mount Rainier to the east should be preserved. The policy calls for careful placement of buildings and landscape features to preserve and enhance the view corridors.

Policy 5.2 East Capitol Campus states that the: “height of any building on east campus should not exceed the height of the existing buildings above the main plaza. Buildings near Capitol Way should be even shorter.”

The 2009 West Capitol Campus Historic Landscape Preservation indicates that building setbacks should enhance views.

SUSTAINABLE DESIGN

Three principles in the State Capitol Master Plan speak to issues of the preservation, adaptive reuse and sustainability of campus facilities.

Principle 1 – Public Use and Access calls for the preservation of public assets.

Principle 3 – Community Vitality indicates that buildings should be renovated when feasible.

Principle 6 – Technical Performance calls for the design of buildings that conserve energy and water.

PARKING

During a typical legislative session, the parking supply on the capitol campus is not adequate to meet current vehicular demand from legislators, staff, agency employees, visitors, or others. Parking facilities on the grounds of the historic west capitol campus and at the base of buildings in the capitol group have a negative impact on the public's use of open spaces and the visual character of the landmark campus. The campus would benefit from additional parking facilities at the perimeter of the site.

POLICIES

RCW 70.94.521-557 mandates Transportation Demand Management (TDM) measures or strategies be implemented in certain counties. It was passed by the legislature in 1991 to reduce the impact of automobiles on the environment and includes requirements to reduce single occupant vehicle trips during commute hours and provisions for Commute Trip Reduction (CTR).

- TDM promotes the use of alternative forms of transportation such as walking, bicycling, transit and rideshare and encourages employees to reduce the number of trips they make through telecommuting, flex and compressed work schedules.
- CTR calls upon employers to encourage their workers to drive alone less often, reducing carbon emissions and traffic congestion.

The 2006 State Capitol Master Plan addresses parking in **Principle 3 – Community Vitality** which calls for a management plan to control parking and promotes alternative modes of transportation for commuters.

Policy 3.2 - Transportation Demand Management requires the state to develop and manage properties on the state capitol to achieve local and state transportation demand policies. In terms of facility planning, strategies to reduce travel demand are considered equally with strategies to increase capacity.

The 2009 West Capitol Campus Historical Landscape Preservation and Vegetation Management Plan called for the relocation of parking from public open spaces on campus to nearby garages or lots.

PARKING STUDIES

Two recent studies evaluate parking on the capitol campus.

2009 Washington State Capitol Campus Parking Study

2014 State of Washington Capitol Campus Transportation and Parking Study

The 2014 study states, "During the legislative session, the Capitol Campus is nearing a point of combined practical capacity, indicating that new parking demands generated by future employee growth or new development could adversely affect circulation to and within the campus unless mitigation measures are implemented."

The 2014 study notes that removal of the GA and Capitol Park garages for the 1063 Capitol Way building reduced campus parking supply. Parking for the west capitol campus during the legislative session will not be met after the 1063 Block is completed.

Transportation Demand Management

Both the 2009 and the 2014 studies stress the importance of Transportation Demand Management plans to meet the intent of the Commute Trip Reduction law and State Capitol Master Plan Policy 3.2 to a reduce the number of single occupancy vehicles on campus.

The 2014 Capitol Campus Transportation and Parking Study Final Report identifies Commute Trip Reduction (CTR) goals for the capitol campus. It responds to the 2006 CTR Efficiency Act which requires all state agencies located in the urban growth areas of Olympia, Lacey and Tumwater to participate in a Joint Comprehensive CTR Plan. The joint plan was adopted by Interagency CTR Board in 2011 and set a goal of reducing the drive-alone trip rate to 63.8% by 2015, which is 10% less than the 2011 rate.

Although the campus is served by alternative modes of transportation including circulator buses, county and inter-county bus service, shared car services (Uber) and bike routes, transportation demand management goals for the campus have not been met.

A combination of factors - the low cost of parking on campus, low gas prices and the desire to park adjacent to buildings - encourage single occupant vehicle use.

PARKING CAPACITY

- There are 6,298 parking spaces on the capitol campus, including 4,532 spaces for employees, 580 for visitors, and 1,186 spaces for reserved and fleet.
- Approximately 40% of the spaces are on surface parking lots and 60% are in parking structures.
- 24% is on the west capitol campus and 76% is on the east campus.
- 2,493 or 40% of the spaces are consolidated in the East Plaza Garage.

PARKING DEMAND CALCULATIONS

The Joint Comprehensive Commute Trip Reduction (CTR) Plan provides a basis for calculating parking demand for office buildings. It proposes a limit to drive-alone parking capacity to 63.8% of employees and provides carpool and vanpool parking for 18.6% of employees. An additional 10% of the total load is provided for visitor parking directly related to building uses.

City of Olympia standards, which are advisory for the capitol campus, provide a guideline for calculating parking demand for buildings that are used for other purposes such as public assembly associated with a visitor center or an event facility. The standards are based on stalls per gross square feet of building development. The count is reduced by 10% to encourage trip reduction.

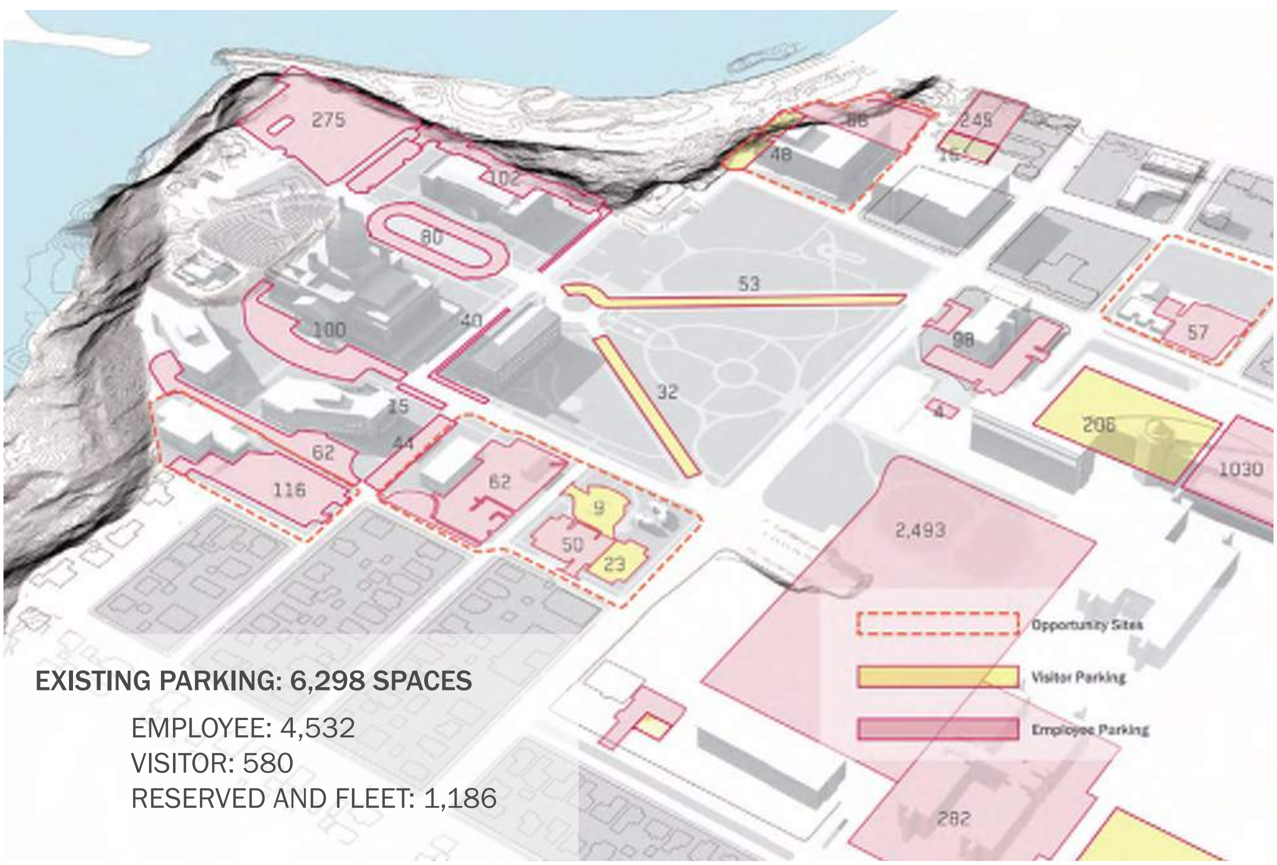

FIGURE 2-4 EXISTING PARKING

Parking Demand Calculations

	STALLS PER 1,000 GSF
INTERAGENCY CTR BOARD	
Legislative Offices	1.92
Exec Branch Offices	3.58
CITY OF OLYMPIA	
Other Occupancies	3.50 minus 10%

COST OF DEVELOPING PARKING FACILITIES

Parking facilities are expensive and have a significant impact on development costs. Reducing demand through required Transportation Demand Management and Commute Trip Reduction measures is the most cost-effective solution to parking demand.

Below-grade parking is typically the most expensive solution since it requires excavation, hauling, pile and shoring needs as well as waterproofing, ventilation, stairs and elevators. Access ramps to below-grade parking typically reduce the usable area on the ground floor of a building, which can impact public use facilities. Cost efficiency for structured parking typically increases with the footprint and number of levels of the facility due to the expense of ramps, stairs and elevators.

Surface parking is much less expensive and may be more flexible, allow for future development of the site for other uses.

VEHICULAR ACCESS

Improved parking facilities on the west capitol campus should align with master plan principles related to the organizing principles of the historic landscape plan and respect the surrounding city neighborhoods:

- Maximize vehicular and service access to campus on Sid Snyder Avenue and 11th Avenue. Enhance the sense of arrival at the intersections with Capitol Way with signage, landscape and architectural elements.
- Minimize vehicular and service access on 15th Ave SW, at the transition between the south edge of campus and the historic residential neighborhood.
- Direct access to surface and/or below grade parking at the south edge of campus from Sid Snyder Way to Columbia Way.
- Locate access to loading docks, service areas and below grade garages on secondary building facades

INFRASTRUCTURE

Stormwater, heating, cooling and power for Opportunity Sites 1, 5 and 6 are currently provided by a mix of dedicated campus systems and City of Olympia systems.

Stormwater and utilities for Opportunity Site 12 (ProArts) are connected to city systems. The site is remote from campus utility services and should continue to be served by city infrastructure.

STORMWATER

The 2006 State Capitol Master Plan and related planning documents address stormwater management.

Policy 3.3 - Environmental Stewardship, calls for the use of low-impact development (LID) strategies which provide stormwater management through infiltration.

The 2015 West Capitol Campus Drainage Master Plan is a long range plan to replace aging infrastructure and provide for new development with a focus on LID strategies. It integrates principles of the 2009 West Capitol Campus Historical Preservation Master Plan.

- Managing stormwater on site, with discharge to Capitol Lake/Lower Deschutes Watershed, reduces development impacts to Olympia's sewer system and complies with National Pollutant Discharge Elimination System standards.
- The drainage master plan assumes that substantial areas of parking are improved with pervious paving or removed. Although the City of Olympia does not require on-site stormwater detention or LID for stormwater discharges to a flow exempt water body such as Capitol Lake/Lower Deschutes Watershed it is still recommended.

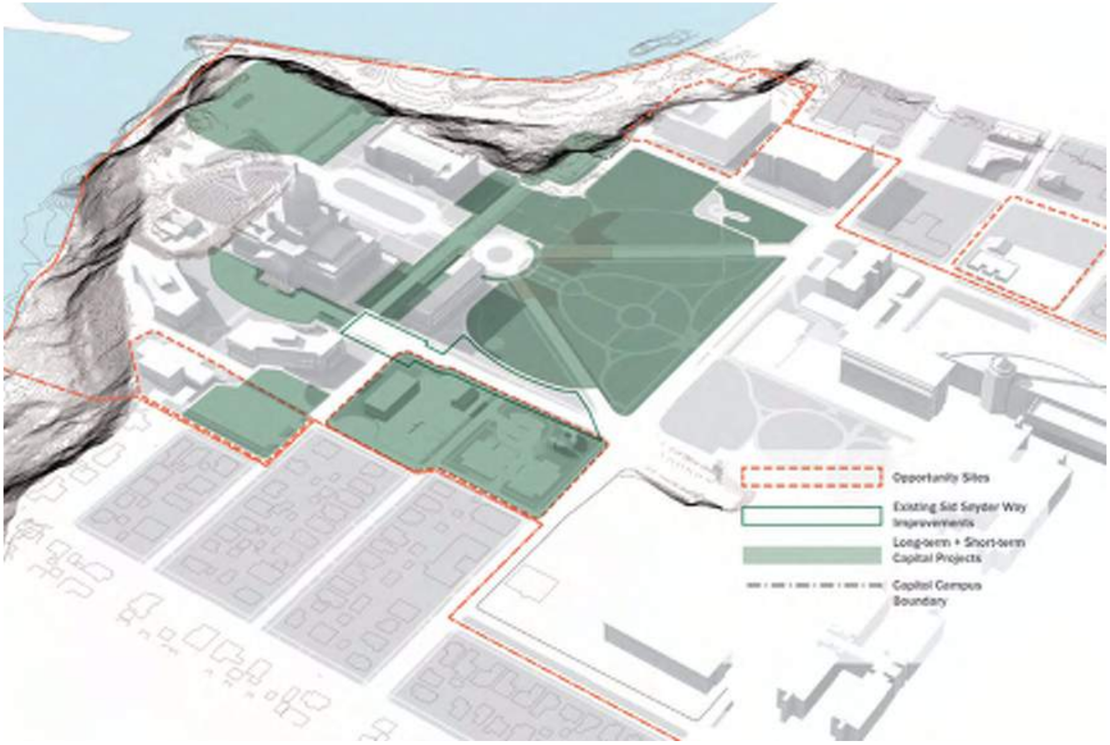

FIGURE 2-5 2015 WEST CAPITOL CAMPUS MASTER DRAINAGE PLAN

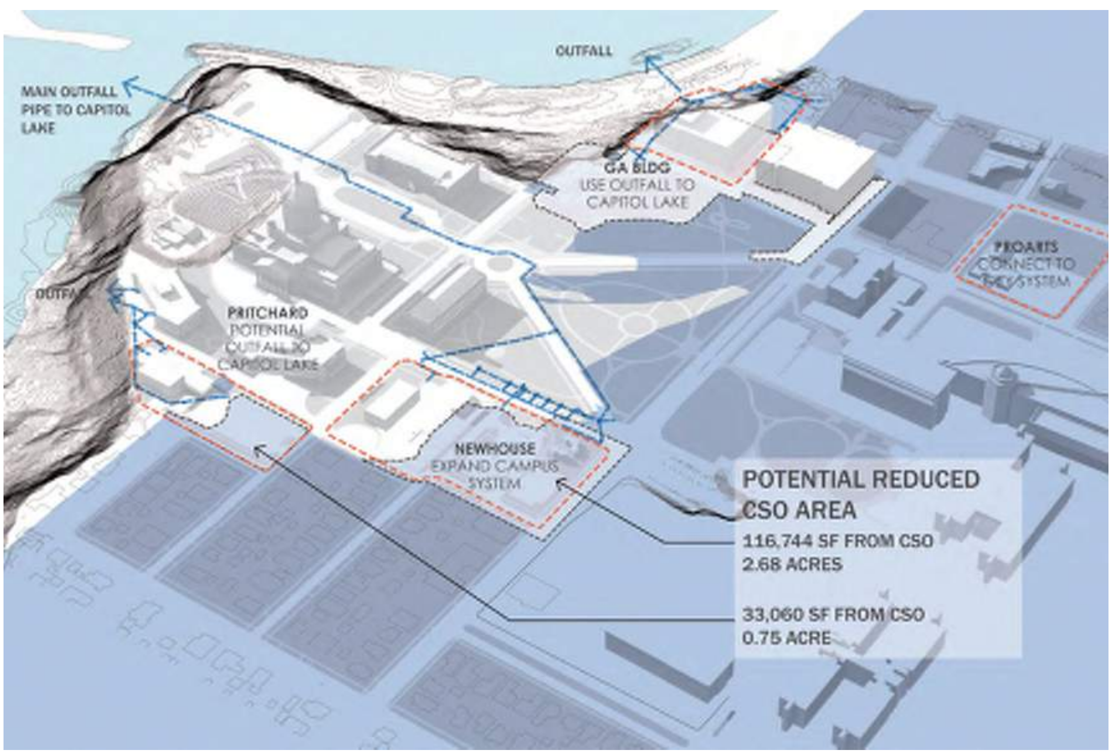

FIGURE 2-6 COMBINED SEWER OUTFALL PLAN

Water quality treatment is required for the construction of new, pollutant-generating impervious pavement. Media filtration devices at catch basins are recommended for stormwater that flows into Capitol Lake/Lower Deschutes Watershed or locations adjacent to the steep hillside above the lake. Bio-retention methods must be carefully considered because Capitol Lake/Lower Deschutes Watershed is phosphorus sensitive. Infiltration methods are not recommended for sites adjacent to the hillside due to the unstable soils.

IRRIGATION

High-efficiency irrigation systems that are compatible with a reclaimed water system should be utilized.

UTILITIES

State Capitol Master Plan **Principle 6 – Technical Performance** calls for the integration of the utility master plan with the design of building systems.

Current planning efforts, including the Capitol Campus Utility Renewal Master Plan Update and the Campus Combined Heat and Power Plant Proposal are focused on providing dedicated campus systems to serve these sites to reduce reliance on city systems, initial and operational costs.

The Capitol Campus Utility Renewal Master Plan Update identifies campus systems upgrades, prioritizes projects, and accounts for future build-out of undeveloped parcels to ensure that infrastructure accommodates future needs.

The Campus Combined Heat and Power Plant Proposal plans for the replacement of the aging Power Plant that supplies steam heat to both sides of the campus.

Development at Opportunity Sites 1, 5, and 6 will connect to these improved utility systems.

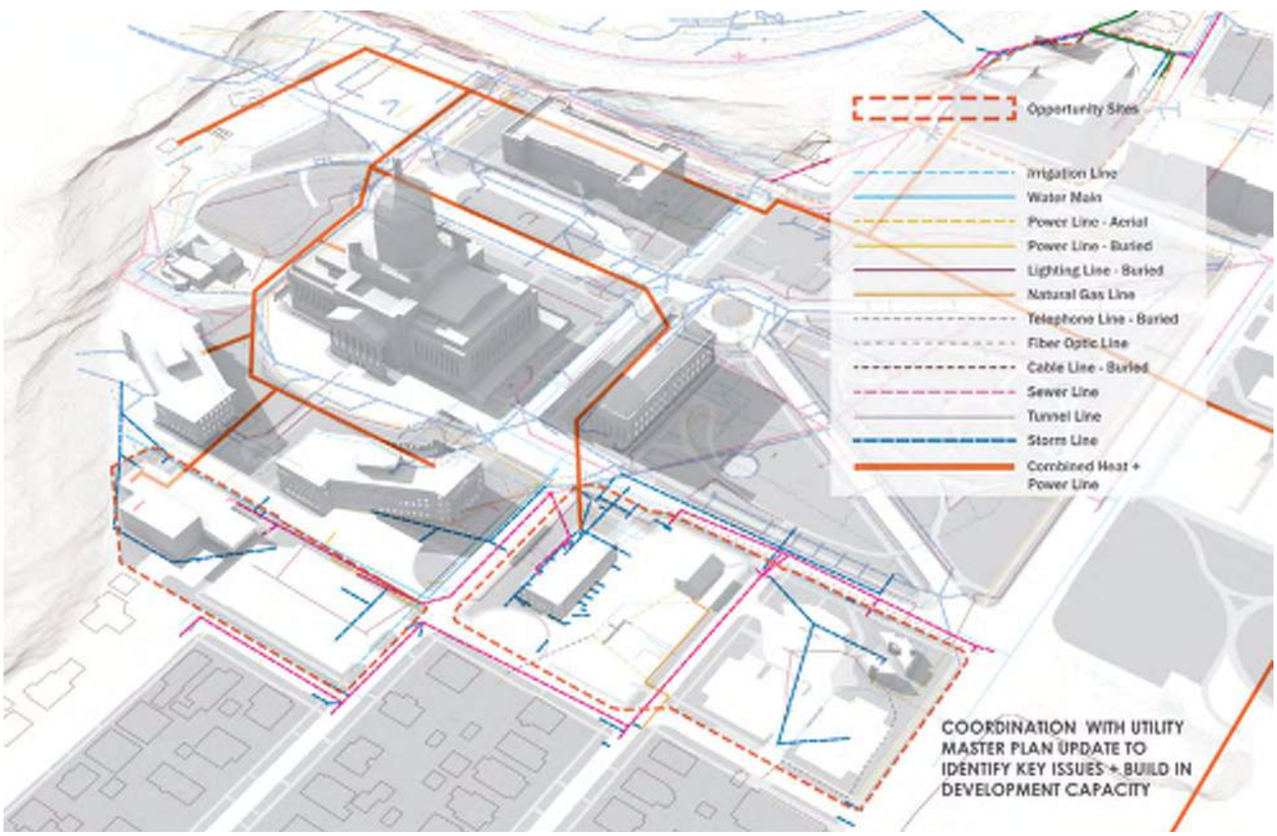

FIGURE 2-7 UTILITIES

OPPORTUNITY SITE 5: PRITCHARD BUILDING

Opportunity Site 5 is located on the south edge of campus between the Cherberg Building and the historic residential neighborhood. The 1.8 acre site contains:

- the 55,485 gross square foot Pritchard Building which was completed in 1958 for the Washington State Library, and
- a surface parking lot with 93 stalls.

The Pritchard Building is protected as a state capitol historic facility under RCW 79.24.710 and is listed on the National Historic of Historic Places.

Less than half of the building is occupied. The exterior stone cladding on the library stacks is failing and presents a life safety hazard. Any improvements that extend the life of the building will trigger requirements to bring the entire building up to code.

PRIOR PLANNING

1969 EXPANSION STUDY
Original building architect Paul Thiry design for expansion of the library stacks.

2002 ADAPTIVE REUSE STUDY
Study to adapt the building for use as offices and a cafeteria.

2004 ADAPTIVE REUSE & ADDITION PREDESIGN
Study to adapt and expand the building to 62,000 gross square feet for use as legislative offices, public space and a cafeteria.

2006 PREDESIGN
Study to adapt the building for use as legislative offices and a cafeteria, and build below grade parking with a plaza on the adjacent surface parking lot. Multiple options were evaluated. The preferred alternative was:

- 63,290 gross square foot renovation/addition with below grade, 210 car garage.
- Lack of adaptability in the existing configuration of the building resulted in very high project costs.

FIGURE 3-3 2006 PREDESIGN

2008 EXTERIOR CLADDING STUDY
- Study to assess the failing exterior cladding system. Recommendations were to address cladding immediately due to the life safety hazard of stone panels falling off the building.

OCCUPANCY

The Pritchard Building was designed to house the Washington State Library which moved to Tumwater after the 2001 Nisqually earthquake. It is currently occupied by the office of the Code Revisor and legislative support staff along with a public cafeteria.

The building includes 33,000 gross square feet book stacks, representing 63% of the building space which is currently vacant. The space is useful only for its original purpose of book storage. It cannot be occupied for offices or related functions. The book stacks have a small footprint, no windows, a 7'-6" floor-to-floor height, one exit stair and no restrooms.

SITE

Location & Access

Opportunity Site 5 is bounded by 15th Avenue to the north, Water Street to the east, 16th Avenue to the south and the steep, forested bluff that overlooks Capitol Lake/Lower Deschutes Watershed to the west.

- The majority of traffic arrives via Sid Snyder Avenue and Water Street. Inbound traffic also turns onto Capitol Way to 15th Avenue SW. Outbound traffic via that route is constrained by the difficulty of crossing traffic to make a left hand turn onto Capitol Way.
- 15th Avenue SW is not aligned through the intersection with Water Street. The offset forces the crosswalk across the south leg of the intersection to land at the driveway to the Pritchard Building parking lot.
- Vehicular access to the adjacent surface parking lot is from Water Street. It serves as drop-off/pick-up areas for legislators and staff. There is some parking in front of the building along the service road.
- Pedestrians access the site from the south via the landscaped walkway east of the Pritchard Building which provides a connection between the capitol campus from the South Capitol Neighborhood Historic District. The main entry to Pritchard is from 15th Avenue. An employee entrance provides access to the building from the east.

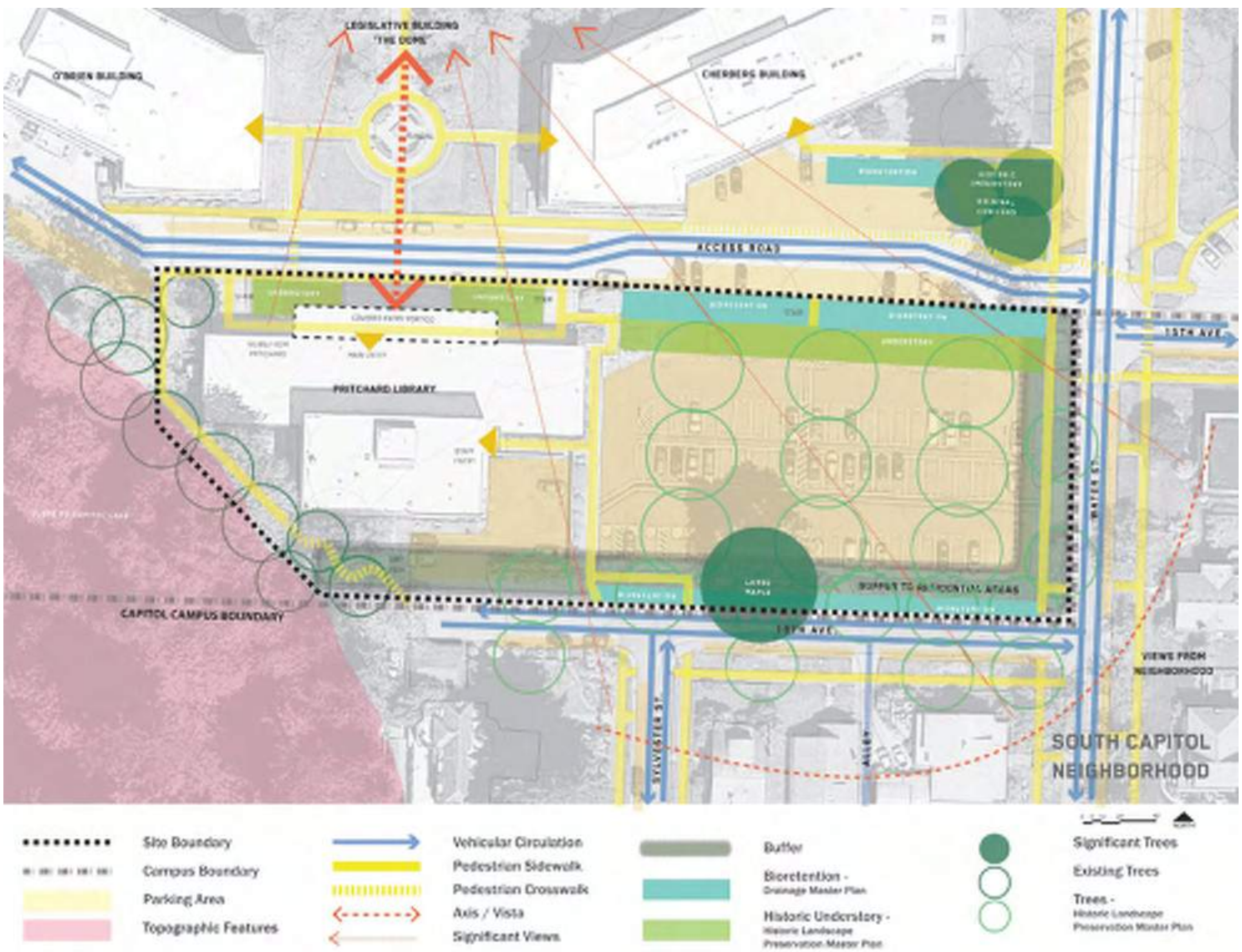

FIGURE 3-4 PRITCHARD SITE ANALYSIS

State Capitol Master Plan

Opportunity Site 5 is in a pivotal location and has significant natural and built features:

- It is an integral part of the west campus. The Legislative, O'Brien and Cherberg Buildings are to the north. The Pritchard Building was last structure to be added to the historic legislative group in the center of the west campus. It is on axis with the capitol dome and symmetrically located between the legislative office buildings.
- Opportunity Site 6 is to the east.
- It is a transition point to the landscape and neighborhood. The site is perched on the hillside overlooking Capitol Lake/Lower Deschutes Watershed is to the west. The South Capitol Neighborhood Historic District is to the south.

Development should recognize and enhance these relationships:

- Improve pedestrian movement from the neighborhood onto the capitol campus.

The Pritchard Building has a strong relationship with the historic capitol group. It is on axis with the Legislative Building and located symmetrically between the O'Brien and Cherberg Buildings. Designed in a Modernist architectural style it is different in expression than the original capitol buildings but fits into and extends the historic, Beaux-Arts composition.

Master Plan Policy 2.1 dictates that new buildings on the south edge of the west campus should serve functions critical to activities in the Legislative Building.

The South Capitol Neighborhood Historic District is immediately adjacent to the south. Views corridors and pedestrian access between the neighborhood and campus are part of the original Olmsted Plan.

Opportunity Site 5 is adjacent to the area defined by the 2007 South Edge Sub-Campus Plan. Because the South Edge Plan describes the opportunities for cohesive development of the south edge of the west capitol, its principles should be considered in the development of Opportunity Site 5. The plan calls for the design of buildings on the south edge to maintain the prominence of the Legislative Building, continuing the spatial organization, view corridor, design elements and functional relationship of the historic capitol group.

Topography

The site's topography constrains development. The steep hillside to the west prohibits building expansion in that direction. There is a grade change between the north side of the parking lot and 15th Avenue.

Landscape

The site contains significant trees. A cluster of three large conifers on the north side of 15th Avenue are original to the Olmsted Planting Plan. A large maple significant in size, but not an original tree, stands south of the parking lot.

The West Capitol Campus Historic Landscape Preservation Master Plan recommends understory planting based on the Olmsted Historic Plan. The West Capitol Campus Master Drainage Plan identifies bio-retention areas.

Site Utilities

The site is served by utilities for stormwater, sanitary, domestic and fire water.

- The Pritchard Building and a small area of the adjacent parking lot drain to a 12-inch storm pipe system that discharges down the slope to Capitol Lake/Lower Deschutes Watershed. There are no detention or water quality facilities on the site. The remaining parking lot area is conveyed to the sewer main along Water Street.
- A 6-inch sewer service, which is approaching the end of its service life, runs from the building to an 8-inch sewer main system that discharges to the public, combined stormwater and sanitary sewer main in Capitol Way.
- Domestic and fire protection services for the building are connected to an 8-inch water main that connects to a 10-inch main in the parking lot south of the Legislative Building. There is an 8-inch dead-end water main in 15th Avenue that connects to an existing 10-inch water main along Sid Snyder Avenue, and a 4-inch water main located along the south side of the parking lot. The

8-inch mains were constructed in 2012. The state owns the 8-inch mains. The city owns the 4-inch main.

- There is a fire hydrant at the water main terminus west of the building and another hydrant east of the building along 15th Avenue.

BUILDING

Historic Structures Report

The 2002 Historic Structures Report states, "The social history surrounding the Library and the prominence of designer Paul Thiry during the period anchor the building and its history firmly in Pacific Northwest post-war development. By adding the layers of significance that come with associations to political and artistic figures, the Washington State Library becomes a textbook on how Washingtonians looked at the future in the 1950's and how public buildings reflected that vision."

The report included the following recommendations:

- The modest scale does not lend itself to massive modification or addition.
- The main entry and roof should be considered integral to the building and treated with the same importance as the primary interior spaces.
- If additions are made they should be subordinate to the visual integrity of the primary facade when viewed from the Legislative Building.
- The original glazing pattern should be restored.
- The Washington Room, lower gallery and reading room on the main floor should remain available for public access.

Envelope

The exterior envelope does not meet the energy code. The exterior walls are not insulated. Any renovation to extend the life of the building will trigger code requirements for system improvements.

Structural

Structural systems do not meet code. Any renovation to extend the life of the building will trigger code requirements for system improvements.

- The building's lack of strength, ductility and continuity of structural components could lead to partial collapse in a major earthquake.
- The one-story reading room lacks structural continuity with the seven-story book stacks. They move differently in an earthquake. The action, called structural pounding, can cause significant damage in a seismic event.
- Shear walls or steel bracing and roof anchors are required. Structural repairs are required for concrete cracks and spalling. The cost per square foot to improve the stacks is high due its small footprint and limited use for storage.
- The exterior closure system, including the curtainwall and stone cladding, is not adequately attached to the structure representing a life safety risk to occupants.
- The southwest corner of the building is immediately adjacent to a steep hillside which has unstable soils and is subject to surficial slides caused by stormwater runoff and over-saturated soil. Shoring of the adjacent hillside is required to maintain the stability of the building.

Mechanical

Mechanical, plumbing and fire sprinkler systems are overdue for replacement and do not meet code. Any renovation to extend the life of the building will trigger code requirements for system improvements.

- Renovation of the stacks is constrained by low floor-to-floor heights which are not adequate for the installation of new ductwork, piping, plumbing or fire protection systems.
- The system is connected to the central campus steam and chilled water plant. The majority of the systems are original and equipped with pneumatic controls. Air handlers added to serve the first floor have DDC controls and are reaching the end of their service life.
- The system for the commercial kitchen provides exhaust only. Transfer air from the lobby is used for heating, ventilation, and cooling, which does not meet code.

- Most of the original domestic water system is in use. As the result of previous renovations, vent piping for the sanitary sewer is open inside the walls which causes sewer gasses to escape into occupied spaces.
- Fire sprinkler coverage is only provided for the main occupied areas of the building. The stack area is unprotected.

Electrical

Electrical power, lighting, communications and fire alarm systems do not meet code. Any renovation to extend the life of the building will trigger code requirements for system improvements.

- Electrical power distribution systems need to be upgraded and replaced. There is limited capacity in the branch panels.
- The emergency generator serving life safety systems is inadequate to accommodate new loads.
- Light fixtures are inefficient, there is no dimming in the daylight zones and no occupancy detection devices to provide energy conservation.
- Communications systems are outdated and do not have capacity to expand.

OPPORTUNITY SITE 6: NEWHOUSE BUILDING

Opportunity Site 6 is comprised of two blocks on the south edge of the west capitol campus. The 4-acre site consists of two blocks.

The west block contains:

- the 25,000 gross square foot Irv Newhouse Building which was built in 1934 as a temporary structure and contains Senate offices,
- the Carlyon House and the Ayers Duplex, known as the Press Houses, which were built in 1921 and 1936 respectively, and
- two parking lots that contain 62 parking spaces.

The east block contains:

- the Visitor Information Center which was built in 1981 as a temporary structure, and
- an 82-car visitor parking lot.

The Newhouse Building and Press Houses are eligible for the National Register of Historic Places but have not been nominated for listing.

That Newhouse Building is a health and life safety hazard and is not suitable for occupancy. Any improvements that extend the life of the building will trigger requirements to bring the entire building up to code. The Press Houses and Visitor Information Center does not serve their functions adequately.

PRIOR PLANNING

1974 DESIGN DEVELOPMENT

Detailed design for 291,691 gross square foot Executive Office Building with below grade parking with 568 stalls. The proposal vacated Columbia Street.

FIGURE 3-5 1974: EXECUTIVE OFFICE BUILDING

2007 PROJECT REQUEST REPORT

The capital request identified the Newhouse Building's deficiencies and provided for phased development of the site:

- 50,000 gross square foot Newhouse replacement with below grade parking for 175 cars, and
- future 150,000 gross square foot office building with below grade parking for 525 cars.

OCCUPANCY

The Newhouse Building contains offices and support space for 13 senators and their staff. The Press Houses contains offices and support space for news media.

The Visitor Information Center is owned by the state and is leased to the Olympia/Lacey/Tumwater Visitors and Convention Bureau. It contains a small visitor center, an exhibit area, staff space and public restrooms.

SITE

Location & Access

Opportunity Site 6 site is bounded by Sid Snyder Avenue to the north, Capitol Way to the east, 15th Avenue to the south and Water Street to the west. Columbia Street divides the site into two blocks, running north to south.

- The west block includes the Newhouse Building and the Press Houses.
- The east block includes the Visitor Information Center, and the west landing for a pedestrian bridge that connects the west and east portions of the capitol campus over Capitol Way.
- Vehicular access from the intersection of Sid Snyder Avenue with Capitol Way is a primary gateway to the west campus. The site is directly across from the tunnel that directs traffic from I-5 to the state capitol.
- Inbound traffic comes to the site via Sid Snyder Avenue and 15th Avenue SW. Outbound traffic via 15th Avenue SW is constrained by the challenge of making left turns onto Capitol Way from a stop sign.
- Sid Snyder Avenue serves as a stop for the DASH shuttle.

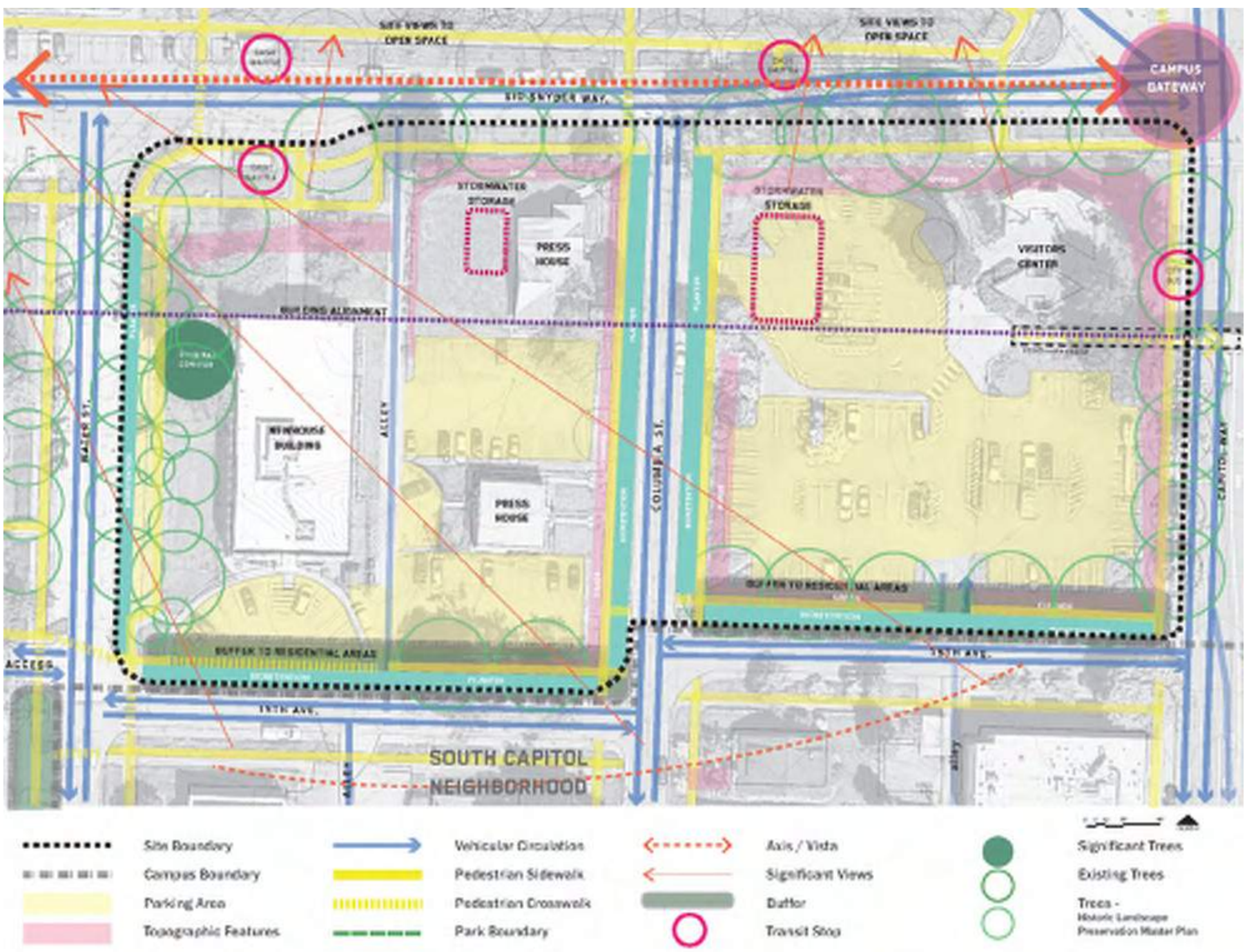

FIGURE 3-6 SITE ANALYSIS: OPPORTUNITY SITE 6

- The pedestrian bridge spanning over Capitol Way is a major pedestrian connection between the west and east campuses.
- 15th Avenue SW is the boundary between the west capitol campus and the residential neighborhood to the south. Columbia and Water Streets connect the South Capitol Neighborhood Historic District to Sid Snyder Avenue and the capitol campus.

State Capitol Master Plan

Master Plan Policy 2.1 states that new buildings on the south edge of the west campus should serve functions critical to activities in the Legislative Building.

The 2007 South Edge Sub-Campus Plan identifies the need for a cohesive development of the south edge of the west capitol. The design of buildings on the south edge should maintain the prominence of the Legislative Building, continuing the spatial organization, design elements and functional relationship of the historic capitol group.

The site has a significant viewshed of the Legislative Building and the Greensward (the central lawn) on the west capitol campus.

The West Capitol Campus Historic Landscape Preservation Master Plan addresses Opportunity Site 6. It identifies the important views of the Legislative Building and the north facades of the O'Brien and Cherberg Buildings from Sid Snyder Avenue, which may affect building setbacks from the street. It proposes a continuous canopy of trees along Water and Columbia Streets to enhance the connection between the capitol and the neighborhood.

The West Capitol Campus Master Drainage Plan proposes bio-retention areas along the edges of the site and Columbia Street.

The South Capitol Neighborhood Historic District is immediately adjacent to the south. Views corridors and pedestrian access between the neighborhood and campus are part of the original Olmsted Plan.

Topography

Grade changes at the north, east and south edges of the site are a development challenge. Topography rises along Sid Snyder Avenue from Capitol Way toward the Legislative Building. There are several feet of grade change between the surrounding sidewalks and center of the site. Excavation and grading should consider the elevation of ground floor levels and accommodate barrier-free access from the campus sidewalks. New topography should enhance the landscape buffer along Sid Snyder Avenue. Access to on-site parking or garages should minimize slopes to entrances and visual impact to future building facades.

Landscape

A significant Douglas Fir stands mid-block to the west of the Newhouse Building. It pre-dates the original campus plan and was incorporated into the Olmsted Planting Plan.

Site Utilities

The site drains to Sid Snyder Avenue to the north and Water Street to the west. It is served by utilities for stormwater, sanitary, domestic and fire water.

- A 12-inch pipe conveys stormwater at the Newhouse Building to the storm main in Sid Snyder Avenue which discharges to Capitol Lake/ Lower Deschutes Watershed. A portion of the block discharges to the combined sewer system in Capitol Way.
- A 8-inch sewer main runs north along Water Street from 15th Avenue to Capitol Way. Another 8-inch main runs east along 15th Avenue, connecting to an 8-inch main in Sid Snyder Avenue. An 8-inch sewer main connects with the public sewer main in Capitol Way. Newhouse is currently serviced by an 8-inch sewer line that connects to the sewer main along Water Street.
- The 6-inch line that brings water services to Newhouse is connected to the 10-inch water main that provides domestic and fire protection water for the west capitol campus. It runs along Sid Snyder Avenue and connects to the city water main. An 8-inch water main in Water Street serves the Pritchard Building. The state owns both mains. There is a city-owned, 6-inch water pipe that runs along Columbia Street and connects to the state's 10-inch water main in Sid Snyder Avenue.
- The nearest fire hydrants are at the southwest corner intersection of Sid Snyder Avenue and Columbia and near the southeast corner of the Insurance Building.

NEWHOUSE BUILDING

The Irv Newhouse Building was built and occupied in less than four months. It did not meet building standards of its own era and has had significant operational and maintenance problems over time. Ongoing repairs to maintain building occupancy are made with increasing frequency and cost.

Envelope

The exterior envelope does not meet energy codes. Any renovation to extend the life of the building will trigger code requirements for system improvements.

The exterior envelope allows rainwater to infiltrate the building. Below-grade walls are not waterproofed. Groundwater infiltration degrades the structure and building systems.

Structural

Structural systems do not meet code. Any renovation to extend the life of the building is will trigger code requirements for system upgrades.

- Inadequate, corroded brick anchorage does not have the capacity to resist lateral forces and is a hazard at building exits.
- Solid areas of exterior wall area are not adequate to provide lateral resistance due to the size and spacing of window openings.
- Interior partitions take the majority of the lateral load which can cause significant interior damage and racking of door frames that in a seismic event which could impede safe exiting.

Mechanical

Mechanical and plumbing systems do not meet code. Any renovation to extend the life of the building will trigger code requirements for system improvements.

- HVAC is a combination of new and old systems that operate independently causing simultaneous heating and cooling resulting in increased energy usage and poor occupancy comfort.
- Leaks in the piping and valves of the original steam radiators waste energy.
- Fifteen year old HVAC rooftop units serving VAV boxes have DDC controls and are at the end of their service life.
- The original sanitary sewer piping is tied into the stormwater system. Sewer gases back up in the system and find relief through abandoned drinking fountains which causes indoor air quality issues.
- The storm water system backs up during heavy rainfall causing water to flood the basement. The system should be completely reviewed and replaced.
- The corroded domestic water system is original. It leaks, has low water flows, and poor water quality.

Electrical

Electrical power, lighting, communications and fire alarm systems do not meet code. Any renovation to extend the life of the building will trigger code requirements for system improvements.

- The main electrical room is crowded and does not meet current code required clearances or egress requirements.
- Water infiltrating exterior walls creates life safety issues for interior wiring and devices.
- Light fixtures are inefficient, there is no dimming in the daylight zones and no occupancy detection devices to provide energy conservation.
- The fire alarm system is comprised of equipment by multiple manufacturers. The limited number of notification fixtures constitutes a life safety hazard.

Press Houses

The Press Houses were not designated for evaluation in this study. The 2007 South Edge Sub Campus Plan notes that, “the Press Houses have moderate historic value…” The 2006 Project Request Report indicates that the Press Houses could be relocated.

Visitor Information Center

The Visitor Information Center was not designated for evaluation in this study.

Pedestrian Bridge

The pedestrian bridge over Capitol Way was not designated for evaluation in this study. Previous studies have indicated that it is structurally deficient and does not meet accessibility standards.

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

The Washington State Library building stands immediately south of the Legislative Building (1928), and is centered between and south of the Public Lands-Social Security (1937, Cherberg) and the Transportation (1940, O'Brien) buildings. Designed by northwest architect Paul Thiry and constructed in 1958, the Modern-style building consists of a two-storied structure set in front of a seven-storied block of stacks. The building was designed by Thiry to complete the 1912 Wilder & White Capitol group and integrate with the Neoclassical style used for the rest Capitol group. The Washington State Library was the last building to be constructed on the core Capitol campus grounds.

The building is located adjacent to the 1979 Washington State Capitol Campus historic district in Washington state's capital city, Olympia, in Thurston County. The building and associated designed landscape are in good condition and retain a high degree of integrity in design, location, feeling, setting, workmanship, materials, and association. Alterations have primarily affected the windows and temporary interior partitions to accommodate changes in functions and programming.

Narrative Description

The Washington State Library, located between 15th and 16th Avenues Southwest, completes the south end of the original Wilder and White Capitol group master plan (1912). Situated immediately south of the Legislative Building, framed between the Public Lands-Social Security and Transportation buildings, this contiguous location to the Capitol group once afforded visual affirmation of the supportive services rendered by the Washington State Library to the prominent functions housed in the Legislative Building.[1]

The building presents a strong assertion of Modernist architectural character engaging Pacific Northwest centric themes of integrating Japanese architectural influences and utilizing expansive window openings to connecting indoor and outdoor spaces. The elegant simplicity of the building's reduction of classical forms from the Legislative, Public Lands-Social Security and Transportation buildings and its siting to complete the south end of the Capitol group provide an unparalleled design solution. In addition, Paul Thiry integrated the works of several prominent Pacific Northwest artists and landscape designer into the exterior, interior, and landscape design for the building to provide a complete architectural composition and cooperation amongst allied arts. Although such a complete architectural and art composition was intended by Wilder and White with the other Capitol group buildings, it was never achieved, making the Washington State Library all the more remarkable for this accomplishment.

Character defining spaces and features:

- Massing, consisting of low front volume and tall rear stack
- Wilkeson sandstone cladding
- Rhythm of window openings along the front volume
- Artwork commissioned as part of the original building construction
- Northwest room in the basement
- Waffle slab stack design

The elevated building site slopes gradually downward from the southeast to the north. This allows the building both a prominent position (matching the scale of adjacent buildings) despite its small stature, as well as situating it as the focal point for the graduated ascent from the Legislative building to the base of the Washington State Library across the flat terrace occupied by the Public Lands-Social Security and Transportation buildings. The west and southwest sides of the site drop off sharply into the Deschutes Estuary, affording a view out over Capitol Lake and the Black Hills.

The building features plantings along the front north facade and northeast corner in two large planters elevated above the terrazzo walkway on either side of the portico, and a third elevated planter off the building's northeast corner. East of the building stand a loose grouping of deciduous trees and shrubs, as well as conifers retained along the outer edge of the parking area. Along the site's steep west slope extend a staggered series of deciduous trees planted in a diagonal line to stabilize the slope. The sundial plaza is aligned symmetrically with the front entry to the Washington State Library. A cantilevered fountain feeds into a formal pool along the front facade. Overall the landscaping serves to both soften and call attention to spatial and landscape/building transitions.

[1] The following physical information was informed by the 2002 historic structures report prepared by Artifacts Consulting, Inc.

Exterior

The Washington State Library's design conveys its shared purpose and belonging within the Capitol group through the building's overall scale, form, deferential orientation to the Legislative Building, and the use of Wilkeson sandstone as an exterior cladding material. The overall form of the building is a "T" (200 by 100 feet) in response to the site conditions and the two original operational needs, archival and people. Archival needs necessitated an enclosed block form, and people needs required a flexible, open plan.

Combining these two elements, Thiry designed a low, open volume, two storied structure with one floor below grade, having a horizontally extended principle north facade, which forms the top of the "T." The seven-storied block of stacks rises from behind the low open frontal volume. The total combined floor space of the two volumes is 61,000 square feet.

Thiry designed the building's careful proportions and simple massing to reflect the form and facades of the classically designed Legislative Building and Capitol group. These design elements contribute to the informal, open composition of the main volume, providing a dignified repose befitting a monumental government building, while harmonizing with the other supportive Capitol buildings to collectively provide a base for the prominence of the Legislative Building. Less obvious design aspects, such as the elevation (height) of the Washington State Library's portico floor matching that of the Rotunda floor, interrelate the two buildings.

This unity of form and function in turn serves to reclaim the essential meaning of the State Library's role within the State Government. The foundation consists of reinforced concrete footings with a reinforced concrete slab on grade for the basement floor. According to the original drawings, the substructure features a repetitive skeletal construction in which the walls are tied to the floors above and below with lap joints. The top floor walls of the stack area use a dovetail anchor slot to tie into the reinforced concrete roof slab.

Exterior walls feature a veneer of warm, off-white Wilkeson sandstone over the reinforced concrete substructure. Thiry chose Wilkeson sandstone instead of Indiana limestone, although it was then three times more expensive, in order to match the earlier Capitol buildings, as well as for the stone's durability, good quality, and because it was a Washington product.

Numerous lesser details, specifically the building's base, rhythmic regular spacing of windows, and recessed panels below the windows, evoke the classical idiom of adjacent Capitol buildings without directly using their detailing. Textures employed on the exterior walls are plain, comprised of the grainy texture of the Wilkeson sandstone contrasting with the glass surfaces of the broad windows. Patterns are subtle within the ashlar coursing of the stone veneer. Their variations, combined with the alignment and proportions of the building's elementary shapes, emphasize the proportional relationships of the building's massing.

Thiry used larger panels along the base from grade up to the first story, with the joints centered below the portico columns and every other window column. Elevated planters project from this base to serve as a pedestal for the portico. The alignment of joints and column centers provide an implied visual sense of the building's structure, which ties the facade's elements together.

Slender ten inch wide columns clad in Wilkeson sandstone support the thin flat roof of the reading and administrative volume, providing an open first story volume punctuated by broad window bays. The same ashlar coursing is employed on the stacks and penthouse; however, the use of slightly smaller panels lessens the visual prominence of the stacks' massive enclosed volume. Wide panels across the north face of the penthouse spread its mass horizontally.

The massive window openings, repeating in rhythmic procession on ten foot centers across the north facade's first story (twenty bays), continued along the east and west ends. The windows provide functional transparency. At the time of construction this represented a significant development in library design meant to encourage library use. The large window openings also provide a panoramic view out over the Deschutes Estuary, the sundial plaza, and across to the Legislative, Public Lands-Social Security and Transportation buildings. The sensitivity for and inclusion of views is an important regional variant within Modernism in the Pacific Northwest. Originally the openings featured a single large pane over two smaller operable sash for ventilation. Currently the window openings feature a 6-pane system.

The roof and drainage system consist of a thin roof over the front portion of the building, sloped slightly towards drains along the roof's perimeter while maintaining a flat profile. The slope stops approximately four feet back from the outer edge of the roof. The flat roofline is characteristic of other existing Capitol buildings. The roof over the low main portion and the portico overhangs four feet on all sides.

Over the stacks, the roof is sloped towards two drains that ran down through the stacks on the north side of the south columns (east and west ends) with a low concrete parapet around the roof's perimeter. A similarly sloped roof and drain is used on the penthouse. The roofline of the penthouse is slightly above the roofline of the Public Lands-Social Security and Transportation buildings.

The front north entry is a formal composition of stairs, elevated planters, fountain and pool, portico, and vestibule that balances the informal open volume to harmonize the original library function with the existing Capitol buildings. Two broad quarter-turn terrazzo stairs with Wilkeson sandstone clad cheek walls, ascend from grade at either end of the portico. A stone railing identical to the railing across the portico encloses the landing on the west stair.

Elevated planters reside between the monumental stairs. Recessed between the planters is a bronze sculpture by Everett DuPen on a slab cantilevered over an illuminated polished terrazzo lined pool set on a base of fine-grained terrazzo. Water historically poured over the slab into the pool below. The curved lines of the sculpture, as well as light reflected from the pool onto the slab's tapered underside, accented the straight, primarily horizontal and vertical lines of the portico and entire building. The patina of the bronze blends with the warm tones in the Wilkeson sandstone. "Library" is carved into the front west panel on the planter.

A second stair leads up from a landing that projects east, across the front of the elevated northeast planter, out from the east stair's landing. This concrete stair with low, stone capped flanking cheek wall leads to the service parking lot.

The elevated portico features a terrazzo floor with a colonnade of Wilkeson sandstone clad columns spaced on 20 foot centers. This spacing allows two columns within the portico to align with the outer edge of the stack, maintaining a visible structure and providing continuity between the stacks and the low, broad front portion. A rectilinear Wilkeson sandstone railing extends between the columns. The open nature of the portico further reinforces the transparency and connection of the building's interior with its surroundings. Set within the portico is the public entry vestibule, comprised of two sets of double doors with aluminum frames that open outwards, leading into the first floor.

The walls of the vestibule are composed of three Wilkeson sandstone slabs, one on either side and a third across the top, all pinned together with metal dowels. The entire unit, offset by one and a half bays to the west of the central north-south axis that aligns the centers of the Legislative Building and the Washington State Library, also projects onto the portico in order to maximize interior space. By shifting the small entry off center, Thiry reinforced the visual unity between the stacks, the low open frontal volume, and the entry composition (portico, planters, pool and stairs) without the small doorway conflicting with this visual mass.

A small enclosed service courtyard off the southeast corner of the library provided a receiving area for deliveries. A reinforced concrete wall clad with Wilkeson sandstone defined the south and east sides of this courtyard with a decorative aluminum gate closing off the sidewalk access to staff only on the east side.

Service entries are located on the first floor of the stacks in the north corner of the east wall to provide staff and shipping access, and on the south side of the penthouse for roof and mechanical systems access (two doors). Throughout the building's composition, Thiry was careful to maintain alignment of the various elements from top to bottom. The blend with existing Capitol group buildings and visual and compositional unity is appropriate for a monumental government building. An added universal access ramp cuts through the far east end of the planters with a reversible wood ramp and glass hand railing set on the stairs leading up to the front portico to provide universal access with the least possible impact to the building's character-defining features.

Interior Spaces

According to former State Librarian Maryan Reynolds, the reason for the State Library Commission's (SLC) interest in Paul Thiry was the functional efficiency of the "basic plan" he developed and his interest in working on libraries and with their staffs.[2] According to Paul Thiry, Jr., his father regarded the design of the building not as a "futuristic program but one that looked to the future as regarded at that time." Throughout the process, Thiry and Reynolds worked closely together (Reynolds often called Thiry three to four times a day with ideas and questions) in deciding on embellishments, particularly the historical content they were to convey, interior arrangement and furnishing choices.[3]

Thiry also met frequently with the Library staff, who prepared and adjusted mock-ups of the floors. Thiry described his conception of the open, flexible plan design as taking what he and the Library staff knew regarding their present and future requirements and developing the Library accordingly in a manner consistent with the practices of library design appropriate at that time.[4]

Consequently, the interior of the building consists of two distinct sections according to the building's original State Library operational needs. One, the low, horizontally extended two-story portion along the north side of the building was designed for public and staff use with one floor below grade. This section consists of a main floor and basement; each was double the height of

[2] Taped interview with Reynolds, September 23, 1988.
[3] Conversation with Paul Thiry Jr., July 2002.
[4] Taped interview with Thiry, December 1, 1989: 18-19.

the stack floors. Second, the enclosed, seven-story vertical mass of the stacks (with two floors below grade) was designed as a stack area without windows for the State Library's collection. The building was designed for approximately twelve people.[5]

The first floor design utilizes a flexible, open plan, readily accessible from the exterior, with reinforced concrete beams spanning north-south. Functionally, the first floor is also split between public use on the west side and staff use on the east side, with the entry area providing a linking space between these two uses. Placing the entry off center removed the main desk from the direct path of the public entering the building. Consequently, the pathway between the entry and the stacks functions as a division between the public and staff space.

Spaces on the first floor originally consisted of administrative spaces (currently office spaces), the reading room (currently a cafeteria), and utilitarian service spaces. The entry is the central circulation point for these spaces, access to the basement stairway, and the main elevator core for the upper stack levels. Dominating the entry and public space is a mosaic by artist James FitzGerald. The mosaic is mounted on a wall above the basement stairwell.

Contemporary furnishings replace the original comfortable davenports, the chairs by supplied by Del-Teet Furniture Co. and designed by Herman Miller, and the low aluminum-frame reading tables with mosaic tops by James FitzGerald. The original color scheme of salmon color, yellows and creams for the upholstered davenports and chairs complemented the subtle tones of FitzGerald's mosaic.[6] Many of these furnishings remain with the State Library at their current location in Tumwater.

The east office spaces consists of work and administrative spaces grouped in the 40 by 80 foot east portion of the first floor. A corridor leads from the entry area down the middle of the east portion to a small vestibule at the east end and the former State Librarian's office and the conference room. A painting by artist Mark Tobey hangs in its original location at the east end of the corridor, and the view down the corridor from the main desk provides a telescoping effect intended by Mark Tobey. Partitions along the north and east walls of the office area maintain alignment with the window mullions. The partitions are only partial height, with the upper portion of the walls open to the ceiling.

The partitions around the former State Librarian's office and associated conference room remain and were different from the other partitions. These original partitions extend full height to the ceiling and feature solid expanses of glass in their upper portions. These, and the partitions around the toilet between the State Librarians office and the conference room are the only partitions extending to the ceiling. The Tobey painting hangs from these partitions.

The first floor remains largely open and visible from the first floor mezzanine, a configuration originally intended to enable maximum operational flexibility with a minimum of staff to monitor activities. Lighting is evenly spaced across the entire ceiling length in two rows. Each original light consists of a rectangular waffle designed unit with eight panels and a piano type hinge on one side and fastening tabs on the opposite side. Lighting was designed to provide 50 candles at reading level.

Basement spaces provide office and utilitarian service functions. Designed originally for library operations, the basement consists of an east-west corridor with main volumes at either end and on the corridor's south side. Secondary spaces are to the north and below the portico. Functionally, the basement's primary volumes are split between public (central and west portions) and private (east portion) with the public corridor providing circulation between these spaces.

Access to the basement for the public is provided through the stairway leading down from the first floor entry area, as well as via the central stair and elevator core. Remaining public spaces, in addition to the corridor, consist of the Washington Room (west end). The corridor originally featured large illuminated color transparencies of Washington's resources and industries mounted in wood display cases along the south wall. Only the display cases remain. Secondary spaces off the corridor's north side consist of public and staff toilets, staff lounge with kitchenette and original cabinets, a public phone inset into the wall, a storage room, as well as work and mechanical equipment rooms (mostly below the portico).

The Washington Room, located at the west end of the corridor below the first floor reading room, consists of a single open volume accessed from two doors on the east wall opening from the corridor and map room. Above the wood shelving with glass doors along the room's perimeter is Kenneth Callahan's mural, furred out to be flush with the outer face of the shelving.

The shelving originally displayed books from the State Library's collection of Pacific Northwest materials, including volumes purchased in 1853-1855 by Territorial Governor Isaac Stevens. Rare documents were kept within a security area in the stacks. The room also originally featured a moveable table, exhibit case, standing shelves, files and a card catalog. The room, originally staffed by a specialist in Northwest History, functioned as a repository for materials pertaining to the Pacific Northwest. According to

[5] Ibid.
[6] Taped interview with Reynolds, September 23, 1988: 34.

Reynolds, more attention was given to the Washington Room's design and furnishings than any other space.[7] The mural and shelving remain; however, all books and displays have been removed.

The seven-storied stacks were intended specifically for the storage of the State Library's collection. As such, the stacks were designed to have open interiors, free of large beams. Stacks were placed along the ribbing of the waffle slab ceiling. The waffle slab construction eliminated the need for heavy beams, which would have conflicted with the flexible arrangement of stacks.

Functionally, the stacks are staff space, open on the north, with access from the exterior on the east wall. The waffle floors consist of three inch slabs with ten inch deep beams, which reduce the ceiling height to 7 feet 6 inches without lights. In plan view, each floor is essentially identical, consisting of a stair, dumb waiter and elevator core in the center of the north portion. Today the stacks function as storage space. Thiry included the dumbwaiter in order to minimize people having to move between floors.[8]

In anticipation of future expansion, Thiry designed concrete block knockout walls on the south end of the stacks. Located along the midpoint of the stack's south wall, these walls were placed on each floor, stacked by floor in a vertical line. Lighting for the stacks consists of long narrow strip type lights the width of the beams. These run lengthwise every second beam along a north-south axis to either side of and to the south of the core.

Waffle Slab

The use of reinforced concrete waffle slabs in the stacks section represents a key innovation employed in the construction of the Washington State Library. A variation of the solid slab, the waffle slab is a two-way floor system, best imagined as a web of crossing joists set at small spacings relative to span (a dimensional ratio of length to width less than two feet). These are supported on all four sides and carry a thin top slab. Voids in the slab, cast using removable or expendable forms, enable a large effective depth while reducing the dead load of solid-slab construction.

Metal pans with wood framing between were used as forms for the concrete casting in the building. The pans were hammered clean after each use, much to Thiry's dislike due to the impact on the shape and integrity of the pans.[9] Omitting these voids around the column-slab joint provides additional strength (resist moments and shears) to those areas. This is evident in the building around the columns. The stiffness of these columns was important for redistributing moments. When parallel lines of recesses are omitted, the slab is a flat slab and supported at only two opposite sides, functioning basically like a beam.

Waffle slabs are often used in situations necessitating spans larger than 30 feet because of the slabs' large effective depth and ability to provide a stiff structure. Generally developed for a uniform distribution of loads over the entire slab panel, they rely on the reinforcing steel to pick up minor concentrated loads. Heavy concentrated loads necessitate true supporting beams.[10]

Waffle slab construction, relatively new to the Pacific Northwest in the late 1950s, functioned well for the building's original library operations. The clear spans enabled flexible arrangements of stacks. The repetitive, efficient construction methods used to create the slabs kept costs low for concrete work and shortened the construction time. The cost savings associated with the waffle slabs contributed in part to the overall savings in the construction budget and the ability to purchase quality furnishings, artwork and amenities. The single drawback, which Thiry mentioned in a December 1, 1989 interview, was the low ceiling height in the stacks due to the depth of the beams.

At first, design methods factored beams in as non-deflecting. Consequently, the beams were designed for the reaction between the slab and the rigid supports. This resulted in either very deep and stiff beams or heavy compression and tension reinforcement. Not until introduction of the 1971 ACI Code was rational design of a waffle slab supported on shallow beams allowed. Thiry's use of waffle slab construction preceded this by 14 years.[11]

The waffle slabs in the rear stacks section of the building are a significant architectural feature of the building and represent a distinguishing historical characteristic. In their original configuration, they impart a unique understanding of mid-century construction methods and technology.

Artwork

The major contemporary artworks commissioned for the State Library were considered an integral part of the architectural design, intended to enhance the building and accent the human element. Their inclusion was the result of several fortunate occurrences. Commissioned specifically for individual locations within the building, all of the site-specific works inside the building were

[7] Taped interview with Reynolds, September 23, 1988: 34.
[8] Ibid.
[9] Conversation with Paul Thiry Jr., June 2002.
[10] R. Park and W. L. Gamble, *Reinforced Concrete Slabs* (New York: John Wiley & Sons, 1980), 2.
[11] Park and Gamble, 7-8.

emblematic of midcentury regional modern aesthetics and were executed by major figures in the American art world working at the peaks of their careers.

This extensive inclusion of artwork was possible largely due to the economical design of the building. Construction bids came in under budget, so Thiry and Reynolds prompted inclusion of artwork as embellishment. The Capitol Committee approved embellishments for up to 2-1/2 percent of the total construction costs and gave Paul Thiry and Maryan Reynolds full authority to choose the artists and the type of art.

Thiry selected artists John Elliott and Kenneth Callahan, recommended FitzGerald, and according to Reynolds, "said the state's next outstanding artist next to Callahan was [Mark] Tobey and we [the Library] should have a Tobey.[12] Maryan Reynolds and Bert Cole (also the State Land Commissioner) discussed the transparency project (for the basement corridor) with Jim Hughes (Public Information Officer) who suggested Bob and Ira Spring.

Ronald Todd, who was the Reference Librarian for the University of Washington, prepared a detailed outline of significant events in Washington's history. Todd shared his outline with Reynolds and Thiry; Reynolds in turn sent it to two of the artists (Callahan, Elliott), to inform their work. Images and themes were included with the outline of events. Reynolds and Thiry also met with Callahan and Elliott. Artwork commissioned for the building included: (*exterior*) bronze sundial, bronze sculpture; (*first floor*) marble wall mosaic, untitled mural on canvas, marble side and coffee tables; (*basement*) Washington Room murals, color transparencies.

Bronze Sundial (Contributing Object)

Installed prior to the 1959 building dedication, the sundial is centered between the identical Cherberg and O'Brien buildings on an 18 foot base of bronze-divided, unpolished terrazzo (matching steps of Washington State Library) bordered by a circular walk. The sundial serves as a principal vantage point for viewing the Washington State Library. Four Wilkeson sandstone piers carry the slab of Wilkeson sandstone on which the plane-type, hand-hammered sundial rests. The face features bas-relief Roman numerals and Zodiac signs around scenes from Washington's history. The gnomon consists of pounded bronze rods. The letter "N" indicates true North.

John W. Elliott was commissioned to provide, according to the original building specifications, a 6 foot diameter sundial, made from two pieces of 19 gauge copper (mitered and reinforced on the back with braces and lugs) with a gnomon made of quarter inch sheet copper, extending from the sundial's outer edge to a point about two-thirds of the way to the center, having decorative bas-relief or repoussé designs on the face, for installation within the circular court directly north of the Washington State Library.

During the design process, Elliott conferred with Thiry and drew from the outline of state history prepared by Ronald Todd. Maryan Reynolds sent the outline to Elliott along with a list of symbol ideas in a letter dated March 18, 1958. The list of symbols included: forts, tepees, covered wagons, ships (sail), fur traders, pioneers, missionaries, Territorial Capitol Building, Indians, canoes, oxen, train, sawmills, grist mills. These were intended to cover one hundred years of Washington's history, from 1853 to 1953.

According to Maryan Reynolds, she was the one who wanted a quote to go with the images on the sundial. However, it took them some time to come up with an appropriate quote. On the back of one of Elliott's cards was a quote likely suggested by him - "no minute gone ever comes back again take heed and see ye nothing do in vain." This was changed, during a meeting on July 10, 1958, to a quote from Marcus Aurelius suggested by Reynolds: "Time is a sort of river of passing events, and strong is its current."[13]

Historical scenes on the face of the dial:

- Captain George Vancouver's discoveries, 1792;
- Establishment of Fort Okanogan near the mouth of the Okanogan River, 1811, and erection of Fort Vancouver by the Hudson's Bay Company, 1825;
- Cowlitz Convention urging creation of a new territory, 1851;
- Crossing of Nachez Pass, 1853;
- First water-powered sawmill in Washington, built by Michael T. Simmons, 1828;
- First railroad to Puget Sound, 1883;
- Medicine Creek Treaty between U.S. and Puget Sound Native Americans, drawn up by Governor Stevens, 1854.

[12] Taped interview with Reynolds, September 23, 1988: 34.
[13] Taped interview with Reynolds, September 23, 1988: 36.

Bronze Fountain

Everett G. DuPen's bronze fountain, installed in 1958 in time for the 1959 building dedication, is composed of four seagulls soaring over waves, flanked by two leaping salmon, with water jets in the foreground and below the salmon. The fountain is mounted on a basin cantilevered from the front facade. A sheet of water falls from the basin into a green terrazzo pool below. The central, grouping of seagulls measures 12 feet from wing tip to wing tip. Three water jets along the front deliver water to the fore of the central group, with two additional water jets deliver water over the seagulls.

According to Mildred K. Sherwood, Art Librarian, University of Washington Library, the bronze, high in copper alloy content, was "selected to contrast well with the architecture, [...] to weather well and to increase in beauty as the richness of the patina increases with age." She indicated the entire assembly was cast in several sections. Using a Jelio-Arc welding process (combined gas and electric welding using helium, which eliminated warping due to heating and expanding bronze) the individual sections were assembled and welded together. Sherwood also indicated the sharpening of leading edges of the forms to "catch the light, airiness and movement increased by the linear effect of the highlights on the wings, while the coving under the wings is designed to catch the reflections of light thrown by the water in an enclosure of space." The design of the fountain welcomes viewing from many angles.[14]

Marble Wall Mosaic

Designed by James FitzGerald, the 20 foot by 16 foot mosaic is comprised of a series of reinforced panels with marble tesserae (tiles or individual pieces) set in a mix of ground marble, cement and latex, with each finished panel edged with brass bar stock. The reinforced panels backing the tesserae consist of galvanized wire lath stapled to plywood. The marble tesserae are placed and angled to reflect light. The 3/16 inch brass edging on each panel controls variations in thermal expansion. Over twenty different varieties of marble are employed, including some from Mexico (green), Norway (rose), several from Italy and Tennessee, as well as other places. The forms, according to the 1959 *Building Dedication* are suggestive of Washington's native forests (verticals), "linear and textural patterns of water, fields, and foliage."[15]

FitzGerald's mosaic, totaling approximately 320 square feet, was installed in time for the 1959 building dedication. The subtle colors used provided a point of departure for interior material and furnishing colors, for the purpose of focusing attention on books and the activity of people. FitzGerald was also responsible for mosaics on several coffee and side tables.

In a letter to Maryan Reynolds (dated July 1961) FitzGerald described the assembly and mounting process of mosaic. A steel frame wall was prepared, to allow installation of the panels so that each one was self-supporting. This was then covered with the reinforced wood panels, surfaced with a water proofing membrane. A "thin metal grid" was then attached to the wood panels; the letter did not describe if the fasteners for the grid punctured the membrane. Then, "a special elastic mortar was … used to grout into the metal the individual marble tesserae."[16]

Untitled Mural on Canvas

Mark Tobey was commissioned to do a painting to be hung in a prominent location in the Washington State Library. According to the building specifications, the painting was to be 7 feet, 10 inches by 9 feet on canvas or other appropriate base for installation on the wall at the east end of the first floor corridor. An article in the Seattle Times in 1959 described it as follows: "Its precise figures represent a marked departure in the artist's style but the colors—subdued blues and browns, off-white and spots of brilliant blue—Tobey trade marks."[17]

In a letter (dated January 15, 1959) to Maryan Reynolds, Tobey analyzed his painting as follows:

> My painting is what would rather loosely be called abstract but really not. The forms are large—rather startling I feel but made I hope to fit the architecture and the very unusual height. I have worked a circular design and movement and built the inner life on an X. The blacks are dominant but the eye rests at last on the diagonal moving left and upward to the white bird form from the contemplating form in deep brown at lower right hand corner. The forms float… .[18]

The process of getting Tobey to complete the painting encountered some obstacles. According to Paul Thiry, Tobey visited Thiry's office where he was shown the location selected for his painting and what size the painting would be. They then set the price and

[14] *Building Dedication*, 1959.
[15] Ibid.
[16] Letter from James Fitzgerald to Maryan Reynolds, July 1961, Washington State Archives, State Library Archive.
[17] "Mural for Library," *Seattle Times*, March 1, 1959: 23.
[18] Letter from Tobey to Reynolds, January 15, 1959, Washington State Archives, State Library Archive.

Tobey departed for Paris. Thiry then received a letter from Tobey, in which Tobey informed him that “the deal was off and he wasn’t well and he didn’t want to paint it.” So Thiry “told him [that they] would sue him.” Meanwhile, Tobey did the painting and sent the aforementioned letter to Maryan Reynolds, informing her that the painting was done and all that remained was for it to dry. On his way to Olympia, Tobey called Thiry to inform him that he was en route for the painting’s installation.[19]

The painting arrived at the Washington State Library on March 1, 1959. Seattle artists Paul Horiuchi and George Tsutakawa installed the painting. According to Thiry, the painting was not what he had expected, nor similar to what Tobey had done before or since.[20] Following the installation a controversy erupted as people expressed widely varying views over the mural's content. This prompted the State Library Commission to have an open house on June 7, 1959, for public viewing of the building.

Washington Room Murals

Kenneth Callahan was commissioned to prepare a three foot, eight inch high by 170 foot long mural specifically for the Washington Room. He was to mount the mural on furring strips on the wall above the bookcases. Initially he declined the commission, citing the amount of work involved and that he wanted what he worked on to be meaningful to him.[21] After coming around, Callahan worked with Thiry and others to come up with the final mural product.

Before beginning on the design, Callahan worked with Ronald Todd, who was the Reference Librarian at the University of Washington. As aforementioned, Todd prepared a detailed outline of significant events in Washington's history. Callahan read this material and sensitively incorporated it into his design. According to Maryan Reynolds, Callahan then painted his design (to scale) on small rectangular panels, each cut to scale to correspond with the location of the panel within the Washington room. These he submitted to Paul Thiry for critique. The only element Thiry asked Callahan not to keep was a totem pole, which, according to Maryan Reynolds, he claimed “destroys the whole composition,” to which Callahan agreed and removed it. Callahan then proceeded to paint the murals—oil on canvas—in a large rented room in Seattle, using the small panels as guides.[22]

By November 21, 1958 they were complete. Callahan arranged with Maryan Reynolds to install them on the December 13 and 14, 1958, which he personally supervised. Maryan Reynolds, in a September 23, 1988 taped interview related how during the installation process—which she attended—Callahan had picked up on her concern about how he had chosen to represent Washington's history and the way this would be received by “history buffs” (her words). Because Callahan said to her “don't worry, Maryan, I know what we have to have here; it will be okay.”[23]

Ronald Todd, Reference Librarian, University of Washington provided for the 1959 building dedication a detailed narrative of the mural's contents, excerpts of which follow below. In there, Todd described how the murals' contents draw on Callahan's own “conception of history as a broad stream in which the lives of men and the events of history intermingle in mutual ebb and flow.” This “dual struggle of man against nature and man against man” was a frequently occurring theme in Callahan's paintings. In the Washington Room murals, there is a greater balance between humanity and the natural environment than in his earlier works. The mountains, Pacific Northwest scenery, and earthen colors form a constant background tying together the four mural sections. Callahan’s “semi-abstract technique” and use of light and shadow provide an “overall spaciousness and depth” to the murals. White, spread throughout, facilitates a high degree of transparency. Objects not only stand out and merge with the background, but the viewer is able to look through them, “in one unbroken line,” at a succession of other objects.[24]

There are four murals:

- Primitive Life (facing the entry to the room)
- Historical Period (to the right—north—of the entry to the room)
- Rise of Industry (above the entry to the room)
- Twentieth Century (to the left—south—of the entry to the room).

Primitive Life

The simpler plan and minimal detail set this mural apart from the other three. A merging of elements of Pacific Northwest and “life-like characters” in their struggle for existence depict the wilderness prior to the arrival of Europeans.[25]

[19] Taped interview with Thiry, December 1, 1989: 16.
[20] Taped interview with Thiry, December 1, 1989: 16.
[21] *Northwest Oral History Project*, interview with Callahan, and taped interview with Thiry, December 1, 1989.
[22] Taped interview with Reynolds, September 23, 1988.
[23] Taped interview with Reynolds, September 23, 1988: 35.
[24] *Building Dedication*, 1959: 7.
[25] *Building Dedication*, 1959: 8.

Historical Period

This panel depicts, in symbolic representation, a series of events that are significant in Washington state's history. The panel reads from left to right, in chronological order of events, with a central focal point. Beginning at the far left, are depicted the members of the Lewis and Clark Expedition in the mouth of the Columbia River at the Pacific Ocean amidst scenery suggestive of Washington's marshy coastal areas. Moving to the right, adjacent the Beaver (steamer who's arrival at the mouth of the Columbia River in 1836 signified the beginning of coastal shipping in the Northwest), the outpost of the Northwest Company and the Spokane house, which as part of a group of approximately a dozen buildings that "served for about 15 years as a center for the fur trade of the Pacific Northwest."[26]

A depicted covered wagon represents the massive overland influx of immigration to Washington. The dates 1836 and 1853, respectively, represent the arrival of Dr. Marcus Whitman (missionary) and passage of the Naches Pass by the Longmire party.[27]

The panel's focal point is comprised of a hand holding a pen, representing Washington's admission to the Union as a Territory (1853) and as a State (1889). Immediately to the right are depicted trees, logs, the tools of pioneer loggers, and a circular saw (dated with the founding of McLoughlin's sawmill at Fort Vancouver in 1827 and Yesler's in Seattle in 1853), together symbolizing the rise of Washington's lumber industry. The 1885 date (founding of the Camas Paper Mill) suggests "the importance of Washington's pulp and paper industry."[28]

Moving right along the panel, the arrangement of "congressional and executive treaty documents," and war clubs, arrows and rifles signifies the Indian Wars that occurred after the treaty made with Governor Isaac Stevens and relocation of resident Native Americans to designated reservations. The dated open books imply a series of "firsts": establishment of the Washington State Library (1853); first newspaper, the *Columbian*, published in Olympia (1852); and first established printing press, at Lapwai (1839). A dated sign board and tall cans of salmon flanked by swimming sockeye salmon represent the beginnings of the fishing and fish canning industry with the establishment of the MacGowan (1854, on the Columbia River) and the Hume (1866, at Eagle Cliff) canneries, as well as a cannery at Mukilteo in 1877.[29]

A waterfall unites the previous section with symbolism of the transcontinental union of the United States. This is represented by a curved railroad track around a crossed pick and shovel signifying the Northern Pacific Railroad (1873) and a depiction of the Stampede Tunnel's entrance (on the far right) that opened in 1888.[30]

The Rise of Industry

This panel provides specific representation of Washington's industries and their growth, reading from left to right. The far left portion of the panel introduces eastern Washington's fruit and agriculture industry with, respectively, apples, pears and other fruit, as well as modern machinery harvesting wheat, with bags of grain nearby. Further to the right are depicted the developmental stages of the state's lumber industry, then the more recent growth of the aviation industry (accented by depiction of both civilian and military planes). A loaded railroad freight train "across the center of the canvas" separates the two. Washington's mineral resources are represented by a "chain of ore cars moving into the entrance of a mine."[31]

Still further to the right are images of Washington's poultry industry (flock of chickens), gardening industry (humans working with plants), and fishing and seafood industries (fisherman straining at nets of fish). Adjacent to these images is the Grand Coulee Dam, indicating the significance of modern hydroelectric power in the region. The far right of the panel then shifts to focus on the development and variety of modern industrial and commercial developments depicted by factories, buildings and ships. The panel's terminal point is the cattle and dairy industries, depicted by grazing cows.[32]

The Twentieth Century

The central focal point of this panel is a large, revolving world. Flowing from this globe are streams of broad ribbons of different languages' alphabets (using words such as life, truth, spirit, democracy, poetry and science to accent the associated ideas) signifying the flow of communication that unites nations and facilitates the sharing of knowledge. These streams branch out to various

[26] Ibid., 9.
[27] Ibid.
[28] Ibid.
[29] Ibid.
[30] Ibid.
[31] Ibid., 10.
[32] Ibid.

twentieth century manifestations significant for the Pacific Northwest's connection and role within the world. People dominate both sides of the panel, which reads from the center out to either side.[33]

To the right of the central globe are depicted advances in chemistry, physics, mathematics and nuclear science. Images of models of rockets, missiles, beakers, test tubes and burners, which gradually shift to blueprints, steel girders, and a variety of structures, as well as power lines and towers. These reflect the roles of both architecture and modern hydroelectric developments in society's growth and development. Tying them in with nature are seed forms and seedbeds in this same section. These symbolize nature's growth and conservation, processes integral in humanity's existence.[34] Terminating this panel, in symbolic representation of humanity's search for identity and meaning in existence, is a solitary figure on horseback.[35]

Starting again from the central globe, developments in fine arts, music, literature, culture, and religion spread out to the left. According the building dedication materials, symbolizing these intertwined points are the "brushes and palette of the painter; the wood, stone and tools of the sculptor; and the music manuscripts of the composer." Representing literature's contribution to culture are books, newspapers and periodicals, while churches and steeples suggest religion.[36]

Progressing left along the panel, these cultural events merge with engineering and architectural planning before making the shift to the modern machine era. The technological developments of the modern era symbolize their associated industry and importance in Washington. The airplane represents the aircraft industry. Broadcasting towers indicate the advances in communication by radio and television. Ships at anchor draw attention to the maritime industry. Scientific advances in agriculture and land reclamation are depicted by irrigation pipes.[37]

Balancing the male figure on the far right is a woman, seated on the far left with her child. Their combined presence implies a continuation of life. Reinforcing this are representations of the fires that occurred in Seattle and Spokane in 1889, from which the rebirth of each city "foreshadowed the cultural and economic developments of the twentieth century." As terminal points of the panel, the people bear witness to the flow of history, the cycle of life, and their past and present involvement.[38] With due regard to the mural's location, the proliferation of books throughout this panel drew attention to the significance and enduring value of books as repositories of knowledge.[39]

Color Transparencies

Along the basement corridor leading to the Washington Room, a series of four, panel-display cases (each with five sections) were installed. The intent was to add beauty, color and atmosphere, as well as educate patrons on Washington state. Bert L. Cole, along with Thiry and Reynolds, coordinated the design and installation of the twenty-eight illuminated color transparencies. Cole, along with being a member of the Capitol Committee, was also the State Land Commissioner. These transparencies illustrate Washington's natural resources, agriculture and industry. Bert Cole and Maryan Reynolds also discussed the project with Jim Hughes, Public Information Officer with the Department of Natural Resources. Hughes recommended Bob and Ira Spring as photographers for the project.[40]

The State Library Commission (SLC) also mailed letters to various organizations (including Boeing and public libraries in Washington) asking for pictures, preferably ones that indicated use of natural resources. In the end, Washington photographers Bob and Ira Spring provided most of the photographs. These included industries, products, flora, libraries, sports, and natural resources. Maryan Reynolds wrote that, after an "extensive investigation" the SLC decided on Chao-Chen Yang, a Seattle color-photographer, to develop the photographs into transparencies. Reynolds then recommended that Yang and Thiry meet to "discuss lighting and the design of the boxes." Work was underway as of December 12, 1958.[41]

Specifically designed for the transparencies, the display cases provided illumination from the back and allowed for independent changing of transparencies. Chao-Chen Yang made the four by five inch pictures provided by Bob and Ira Spring into interstage color negatives, using Ektacolor film. The final 30 by 24 inch transparencies were developed on Ektacolor film, printed from the interstage

[33] Ibid., 10-11.
[34] Ibid.
[35] Ibid., 7.
[36] Ibid., 10-11.
[37] Ibid.
[38] Ibid.
[39] Ibid.
[40] Letter from Jim Hughes to Bob and Ira Spring, July 9, 1958, Washington State Archives, State Library Archive.
[41] Letter from Reynolds to Thiry, December 1, 1958, Washington State Archives, State Library Archive.

negatives. According to the building dedication book, this "development process is very technical, involving control of temperature, agitation, and relative humidity."[42]

Color control enabled high-color fidelity, enhancing or correcting specific colors as necessary. The transparencies were then mounted between two sheets of glass, the back sheet being white flash glass and the front being single strength clear glass. The entire thickness, including transparency and both sheets of glass, was not to exceed three-eighths inch. Photocolor fluorescent tubes (specified by Chao-Chen Yang) illuminated the transparency from behind.[43]

Alterations

From the Washington State Library's construction in 1959 until 2001, the building had the same occupant and the same use. In 2002 the agency was transferred to the office of the Secretary of State and physically relocated to an office park in Tumwater. Consequently, alterations through 2001 were minimal and done primarily in response to space needs, technological upgrades, and changes in interior decoration, collection growth, and increases in staff. After 2002, more substantial alterations were made to the office spaces, windows, and reading room. However, the original location, overall landscaping, massing, exterior materials and finishes, setting, and interior spatial volumes and relations remain intact.

The following list contains the known major projects undertaken since completion of the building. Projects are arranged chronologically, with the exception of *Site*.

- **Site**: trees off the southeast corner and along the south side of the stacks adjacent to the building were removed. A gravel walk was added along the south and west sides of the building.
- **1965** New Movable Partitions: In response to changes in spatial needs, movable, seven foot high partitions were added in the basement creating three new office spaces. These partitions were an early effort to meet the rapidly expanding need for administrative space within the building, and would change spaces throughout the building as areas were subdivided to accommodate staff increases.
- **1976** Interior Decoration: This project redid the interior decoration and color scheme throughout the building. These changes consisted of new wall coverings, carpet, paint, and murals in the staff lounge, map and microfilm rooms, general office area, and north stair. The interior was repainted with a color scheme of whites, off whites, gold and light browns, with additional blues and yellows in the stair core and elevator interior.
- **1979** New Concrete Stairs: This project added concrete stairs on the exterior northeast and northwest corners of the stacks, connecting the basement, basement mezzanine and first floor. This addition altered the interior layout and the exterior corners of the stacks visually; however, this area is not visible from the public frontage.
- **1993** Floor Covering Replacement: The original finish flooring was replaced throughout the first floor and basement with carpet of a uniform color (except in Head and Deputy Librarians' offices). In the stacks, rubber floor tiles replaced existing loose laid rubber floor tiles in the shipping area. The main portion of the first floor stack area received carpet matching the color of the first floor carpet. In the basement, the east half of the stacks received carpet matching the color of the first floor carpet, with a different color carpet in the northwest corner of the basement mezzanine. No changes were made to the bathrooms or mechanical/storage areas. On both stairs, rubber treads and risers, with rubber floor tiles on the landings replaced existing finishes.
- **1996** Window Replacement: Original windows (single large pane over two smaller operable sash) were removed. The new windows consisted of the current six light windows.
- **2002** Building Modifications: Addition of an enclosed reception area directly opposite the main entry and the addition of large-scale, exposed HVAC duct work partitions for a new kitchen serving area projecting out from the stack area into the first floor; removal of the interior set of doors on the main entry vestibule; division of the first floor into two portions through a partition wall off the wall holding the FitzGerald mosaic. Miscellaneous mechanical alterations to the basement, stacks, roof, and moving of partial height partition walls in the first floor office area.

[42] *Building Dedication,* 1959: 12.
[43] Letter from Chao-Chen Yang to Reynolds, December 12, 1958, Washington State Archives, State Library Archive.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [x] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [x] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B Removed from its original location.
- [ ] C A birthplace or grave.
- [ ] D A cemetery.
- [ ] E A reconstructed building, object, or structure.
- [ ] F A commemorative property.
- [ ] G Less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

POLITICS/GOVERNMENT
ARCHITECTURE

Period of Significance

1958 - 1959

Significant Dates

1958
1959

Significant Person
(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Thiry, Paul (architect)
Holmdahl, Otto E. (landscape architect)
Kuney-Johnson Company (builder)

Statement of Significance Summary Paragraph
(Provide a summary paragraph that includes level of significance and applicable criteria.)

The Washington State Library is eligible for individual listing to the National Register of Historic Places at the statewide level of significance under criteria A and C in the areas of significance of politics/government and architecture. The period of significance begins in 1958, the year building construction completed, and ends in 1959, the year in which installation of the site specific permanent commissioned art work was completed, and occupancy by the Washington State Library occurred. The building is eligible in the politics/government area under criterion A, as the first building designed specifically for the Washington State Library as the single tenant to communicate the significant functional relationship between the library and the state legislature. The building is also eligible in the architecture area under criterion C, as an excellent example of Modern architecture as designed by Seattle, Washington-based architect Paul Thiry. The building is an exceptional example of the use of Modern design to integrate with and complete the Neoclassical Capitol group; the advanced use of modern waffle slab technology and interior library functional programming; and for the prominence of Northwest artists Mark Tobey, Kenneth Callahan, Everett G. DuPen, James FitzGerald, and John W. Elliott commissioned to design permanent site specific artworks for the building.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

The Washington State Library was the last monumental building to be added to the West Capitol Campus. In time and history it is separated from the Neoclassical Legislative Building, Temple of Justice and attendant structures by the Second World War and the midpoint of the 20th century. In appearance and design, it differs in architectural sensibilities with a decidedly expressed idea about modernity and form. The building was designed and built specifically for the Washington State Library.[44]

The graceful structure that creates the southern margin of the architectural group is, however, an inseparable part of the architectural composition and a fitting last phrase in the 40 year process of building Washington state's Capitol campus. The building was designed and constructed just thirty years after the pivotal domed Legislative Building; yet, in construction and design the two structures seem ages apart. While the central Legislative Building referenced Greek and Roman Classical architecture and stone masonry building methods, the Washington State Library introduced highly modern design principles along with innovative materials and structural engineering systems. In many ways, the buildings are counterpoints to one another, reflecting a symbolic appreciation of the past and a sense of promise about the future.

The Washington State Library is among the region's most important mid-century works of public architecture. Architect Paul Thiry was at the height of his intellectual and professional career when he designed the building, and it represents a masterpiece among his works. As the final monumental public building added to the Capitol group, the Washington State Library is a critical element in the architectural group and is among the most important regional archetypes of mid-century architectural design and thought. The social history surrounding the building and the prominence of designer Paul Thiry during the period of design and construction anchor the building and its history firmly in Pacific Northwest post-war development. By adding the layers of significance that come with associations to political and artistic figures, the building becomes a textbook on how Washingtonians looked at the future in the 1950s and how public buildings reflected that vision.

State Library Function

The nominated building was designed for the Washington State Library, which operated from the building's spaces through 2001. Understanding the function of the Washington State Library relative to the executive and legislative branches of state government is fundamental to the significance of the building's design and placement. In a literal sense, the origins of the Washington State Library can be traced back to an eclectic shelf of books and two parchment covered orbs acquired by the Territory's first Governor, Isaac Stevens. Most of the books and the two celestial globes, one of the earth and one of the heavens, remain in the State Library's collection, where they have launched its trajectory of ideas and reflected its beginnings for more than a century and a half.

In a more formative mandate, the Organic Act of the Territory of Washington, passed by the Congress of the United States on March 2, 1853, provided for a library as an integral step in creating a new territory. Predating statehood by more than 35 years, the State Library became Washington's oldest executive agency. The State Library was conceived as a readily accessible repository of records and documents for use by the State Legislature, a role identical to that of the relation between the Library of Congress and the Congress of the United States. For its first 100 years, the State Library operated in relative isolation, unseen by most citizens and visitors to the State Capitol as it occupied a variety of impermanent locations. Not until the formal opening of the Washington State Library in January 1959, did the library have dedicated quarters whose siting and architectural composition expressed the significance of the library's supportive role within the State government.

[44] The following historical information was informed by the 2002 historic structures report prepared by Artifacts Consulting, Inc.

Permanent Library Quarters

The State Library as a recognizable agency was initially located in the first wood frame Capitol building, and then relocated to the McKenny building in downtown Olympia. By 1906, it had moved into the Old Capitol Building (Second Capitol Building, former Thurston County Courthouse), where it shared space with the Office of the Superintendent of Public Instruction. In 1917, it moved again, this time into the basement of the recently constructed Temple of Justice, where it was to remain for the next 40 years until it outgrew its subterranean home.

After the Second World War, prosperity and population growth were reflected in the size and complexity of state government. The State Library's responsibilities and operational space needs grew along with the rest of the state government. During the 1954 legislative session, the State Library handled the mailing of 555,000 copies of bills to libraries across the state and received approximately 10,000 federal documents. Amidst cramped conditions with books stacked on steam pipes, rare volumes piled in a vault, micro-film equipment sharing closets with the heating system, and the bindery, mending, mimeographing, receiving and mailing departments squeezed into seventeen square feet of space, it became evident that a true library building should be built.[45]

Earnest conversations and planning for a more accommodating and permanent location for the State Library had been ongoing from 1913 through the early 1950s. Wilder and White originally included it in the program for the Legislative Building. However, by the time that building was completed in 1928, the Automobile-License Department had grown and needed the space allotted for the Library. Meanwhile, the Old Capitol Building was once again considered, but it proved too far from legislators who needed access to the State Library's records and research tools.[46]

The first substantial progress towards obtaining a permanent dedicated building for the State Library began with the formation of the State Library Commission (SLC) in 1941. The SLC focused from the beginning on the need for a building. They proposed a joint Education and Library building during Governor Arthur B. Langlie's first term, continued to push the plan during Governor Mon C. Wallgren's service, and again under Governor Langlie in 1948. By 1951, they enjoyed some success in getting budgetary consideration for the project, largely through the efforts of State Librarian Carma Zimmerman and Inez Lewis, the Governor's secretary and a friend of Zimmerman. The State Library was to be included in a new building that would also house the Public Printer, as well as several other departments that were leasing space in private buildings. Central to the development of upcoming events was the hiring of Maryan E. Reynolds in 1951 as the State Librarian to replace Carma Zimmerman, who resigned to accept a position as California's State Librarian.

Over the course of the next six years of struggle for permanent library quarters, Reynolds relied on the sound advice of Superintendent of Public Instruction Pearl Wanamaker (Chairperson of the SLC) and Alta Grim, who had been acting State Librarian three times in her career. In a climate of frequent political storminess, the three women navigated the building project forward with determination and astuteness. As architectural plans developed for a new joint use building off the north side of the Capitol grounds, the SLC recognized that there was little in the way of specialized spatial requirements of a library. Conceived primarily as an office building, the design made only limited provisions for future expansion of the library space and had functional flaws.

The SLC met with Governor Langlie and asked for removal of the Library from the 1953 bill authorizing the joint use building. They further requested that the Governor authorize a dedicated building just for the State Library. Despite Langlie's expressed agreement to this change (passed in March of 1953), no further progress was made on a separate building. By 1954, the Department of Labor and Industries (L & I) was proposing to move the State Library into its old two-story building between 14th and 15th Avenues on Water Street after L & I moved into the new office building then under construction (completion anticipated for 1955). This proposed relocation of the State Library would have required the addition of two wings and a new front entrance to the former L & I building. Meanwhile, popular support for a State Library building was growing across the state, particularly in the Washington Federation of Women's Clubs, the American Association of University Women, and the Parent-Teacher Association.[47]

The tenor of political support for a State Library building was decidedly divided along gender lines, with the male dominated legislature largely indifferent, and a growing base of grassroots support developing among statewide female-led activist groups. After being sued by a group of local business owners in 1954, the Thurston County Superior Court ruled that all State Agency headquarters had to be in Olympia. This required a substantial addition of office space to accommodate the hundreds of employees moving to Olympia. Senator Carlton Sears and Public Institutions Director Harold Van Eaton advised the SLC that they would need the Labor and Industries Building for office space and that it would be better for the State Library to construct a new building.

[45] Maryan E. Reynolds with Joel Davis, *Dynamics of Change: A History of the Washington State Library* (Seattle: Washington State University Press, 2001), 53-55; and, Lucile McDonald, "A Home at Last for Washington State's Library?" *Seattle Times*, December 5, 1954: 8.
[46] Reynolds, 2001: 53-55, and *Seattle Times*, December 5, 1954.
[47] Reynolds, 2001: 55-56.

This stalling and relegation of Library construction to a secondary status behind office space appropriations continued as the Finance Committee took issue with the updated language in the bill regarding the sale of bonds to finance the State Library building. They cautioned that unless corrections were made to the bill language, there would be no way to procedurally sell the bonds, effectively forcing the Library to start all over again with the budget process. In one of many resourceful moves, Reynolds had already spoken with the attorney general, legislators and staff responsible for the changes, and she was able to characterize the issue as obfuscation. She informed the Finance Committee that no changes were necessary to make the bonds saleable and moved deliberately to take advantage of the opening.

Shortly thereafter, Reynolds contacted John Robinson, the Assistant Attorney General assigned to the State Library, to discuss the building's final issues concerning site choice and financing. Robinson, concerned that this stalemate would continue, proceeded to draft a bill for action that would resolve the final issues and authorize construction of a dedicated building for the Washington State Library. Reynolds then met with Senator Albert D. Rosellini to ask for his support if he were elected Governor.[48]

In March of 1955, the legislature authorized the construction of both a new state office building and a State Library building. At the last minute, however, Newman Clark, a library opponent, added an amendment to the authorization confusing the buildings referenced in the bill. In addition, the Capitol Committee's indecision on how to finance the Library and a dispute over its location stalled construction until membership of the Capitol Committee, which was responsible for the expenditure of Capitol Funds, changed in 1957 to include Governor Rosellini, Commissioner of Public Lands Bert Cole, and Auditor Cliff Yelle.

As a senator, Rosellini had told Reynolds he would support a new building for the Library as either Majority Leader in the Senate or, if elected in the November 1956 election, as Governor. Following his election, Governor Rosellini met with the entire SLC and members of the Washington Library Association (WLA) Executive Board in his Seattle law office to discuss the full WLA legislative program, particularly the language of the Library building bill using a draft prepared by John Robinson.[49]

The outcome of the meeting was unequivocal. The resulting House Bill 50 put to rest all of the outstanding issues concerning the financing, location and construction of a State Library building. The divisive question of location was addressed in a new section added in Chapter 62 that retained the word "contiguous" in describing how close the building would be to the Legislative Building and Capitol group. The Chapter also specified that the State Library building would be a "priority project," and that Capitol building funds would be focused on the State Library building's construction, with only dire emergency exceptions.[50]

Governor Rosellini expedited its passage through both Chambers without a dissenting vote, and approved it on March 11, 1957. It was the first official act of the newly appointed State Capitol Committee. Virtually the only substantive progress the Capitol Committee made on the Library project after the 1955 legislative authorization was the selection of an architect. Given the thick atmosphere of indifference toward the project in many quarters of state government, it came as no surprise that difficulties emerged.

Architect Selection

The circuitous path that led to the choice of a designer for the building began with an unconnected and not altogether pleasant meeting between Governor Langlie and an Alaska-born, Seattle-based architect named Paul Thiry. While serving as president of the Washington Chapter of the AIA, Thiry represented the organization on behalf of one of its members, Gordon Lumm, a Tacoma architect involved in planning the new multi-tenant office building, the General Administration building. Governor Langlie had contested the standard 9% AIA schedule fee, agreeing to only 6% in public statements that included fairly confrontational language.

According to Thiry, a face-to-face meeting was unavoidable, and in the end, Governor Langlie did not move from the 6%. However, as part of this process, State Auditor and Capitol Committee member Cliff Yelle met Thiry and was impressed. Even in losing, Thiry displayed a certain integrity and confidence in his arguments that Yelle admired. Thiry later recalled that Yelle "seemed to like" him both as an architect and a person.[51] In what could have been a misstep, Yelle and the Capitol Committee bypassed Maryan Reynolds, the WLA and the SLC, and introduced the notion of Thiry as the architect for the new Library. Langlie opposed the selection, and the committee decided to bolster their choice by seeking recommendations from the library boards and Maryan Reynolds. In the meantime, Thiry met with Reynolds to discuss and explain his interest in the project.[52]

The president of the WLA asked for all librarians involved within the last five years in a building program to prepare and discuss their recommendations for architects at a special meeting. After "considerable discussion," the WLA selected the following six candidates to present to the State Library Commission: Decker and Christenson; Naramore, Bain, Brady and Johanson; Paul Thiry; John W.

48 Taped interview with Reynolds, September 23, 1988.
49 Some very powerful state senators later tried to get Robinson fired for this, but Attorney General John J. O'Connell refused. Reynolds, 2001: 227.
50 House Bill 50, signed March 11, 1957 by Governor Rosellini.
51 Taped interview with Thiry, December 1, 1989: 1-4.
52 Taped interview with Thiry, December 1, 1989: 3-4.

Maloney; Jones and Bindon; and, Wohleb and Wohleb and Associates. The WLA then submitted these choices on September 6, 1955, to the SLC for their approval. Some architects, including Maloney, also submitted letters directly to the State asking for consideration. The SLC debated whether to submit the list as presented or to narrow it down. They decided to submit a list of three firms according to comments from other librarians on their finished buildings, along with a list of buildings designed by each architect. The favorable design of the Northeast Branch Library and his enjoyment of working with librarians and libraries were important factors in Thiry's selection for the list.

On September 15, 1955, the SLC recommended the following three candidates to the Capitol Committee: Decker and Christenson; Paul Thiry; and, Wohleb and Wohleb and Associates. Of the three, the SLC endorsed Thiry. At the meeting, Harold Van Eaton's objection that it was his responsibility to appoint an architect according to the Attorney General was ignored. The Capitol Committee then voted (two to one) to make the choice of Thiry final on December 13, 1955. Otto Case, the Land Commissioner, who was very old at the time, nearly voted no before his staff swayed him to vote yes. Governor Langlie, concerned with not having a definite proposal for funding the building, was in opposition.[53]

Financing

Capitol Building Funds financed design and construction, utilizing no taxpayer money. Normally, the Secretary of the State Finance Committee, then Ernest Minor, issued bonds at no additional cost to the State. However, under pressure from the State Librarian to begin work and with the fortuitous voluntary offer by the private financial firm of McLean and Co. of Tacoma (Sid Yelle, brother of State Auditor Cliff Yelle, was the firm's local representative), the Capitol Committee determined the firm's fee reasonable for the work involved. The original proposal called for payment of 62-1/2 cents for each hundred-dollar par value of the bonds. Proceeds from the sale of Capitol Grant timber holdings (which consisted of 132,000 acres of timberland received from the Federal Government as a statehood gift, November 11, 1889) repaid the bonds. The *Seattle Times* reported the annual revenue from these timber sales at that time averaged around one million dollars, which was sufficient, with "appropriations from some additional allocations the following year," to cover construction costs.[54]

Site Choice

The debate over site choice began with the 1955 Legislature authorizing the construction of a new State Library building. Once the focus shifted from renovating existing buildings or moving into an already planned office building, the question of whether the building should be "contiguous" or "adjacent" to the West Capitol Campus became a controversial matter.

During the 1955 legislative session, Leo Dawley, who was from Olympia and Chairman of the State Republican Party, owned property adjacent to the West Capitol Campus that he wanted to sell "whether or not it was suitable" as a library site. He pressured Reynolds with an ultimatum that if "adjacent" were not written into the building bill, he would make sure the State Library did not receive a budget. Dawley believed the term "contiguous" used in the bill to describe the location of the new library disqualified his property from consideration.

With support from Senator Sears, the language was not changed, a fact kept quiet until the building bill was signed, and Dawley's site was indeed eliminated, along with widespread unease on both sides of the political aisle.[55]

After Thiry's appointment as architect in 1955, he met with the SLC to discuss ideas and then began investigating possible locations. He presented his preliminary ideas to the SLC on February 2, 1956. Then on April 17, 1956, Thiry presented his recommendations to the Capitol Committee. His concept was that the building should complete the Wilder and White master plan as well as the subsequent Olmsted Brothers' landscape plans for the Capitol group.

As the southern edge to the Capitol ensemble, Thiry imagined a freshly interpreted monumental building that reflected the Classical form of the central domed Legislative Building and took its place as an equal among the other attendant structures. Thiry's site planning ideas amounted to an updating of the Wilder and White master plan for the Capitol campus, and it spurred the first original thinking about where government buildings might be located once the Capitol group was completed.

In part due to Thiry's broad approach to site planning, the Capitol Committee conceded to a request by Olympia's Planning Commission to hire a consultant to conduct a study of the West Capitol Campus for expansion and State Library location. Within this continuing debate over site choice, the SLC proposed three important considerations for site location: close proximity to the Legislative Building; convenient location for government agencies; and inclusion of space for future expansion.

[53] Taped interview with Thiry, December 1, 1989: 1-2 and paper prepared for the SLC by Reynolds prior to 1957 session of the Legislature.
[54] "Private Firm to Handle Bond Issue for State Library," *Seattle Times*, April 2, 1957: 18.
[55] Reynolds, 2001: 58.

On May 21, 1956, the Capitol Committee authorized Thiry to have his preferred site (current building location) evaluated for soil stability and excavation above the bluff. On July 9, 1956, soil mechanics engineers Dames and Moore submitted their report stating that with the proper precautions taken, the site was favorable. The Capitol Committee arranged a meeting, for July 16, 1956, supposedly to finalize the approval of Thiry's preferred site. However, Thiry's approach to the Library location question was a comprehensive one that not only justified the new building as the final piece of the Capitol group, but also advanced a concept for grouping future buildings on the east side of Capitol Way.

In Thiry's view, the Library was of consummate importance and a fitting final act in the architectural drama of the State Capitol. He held that the State Library was "entitled to one of the primary sites on the campus because it was one of the functions of Capitol Government and it was also the starting point in references [i.e. legislative statements and laws] for the Legislature." All others could follow on a new campus canvas well to the east of the Classical constellation of buildings that surrounded the Capitol dome. Langlie's reply was that he "had not been retained" to prepare a Capitol Plan.[56]

Amid the increasingly fractious atmosphere swirling around the Library's location, and against Yelle's objections on Thiry's behalf, the Capitol Committee surprisingly decided to partner with Olympia's Planning Commission in hiring the firm of Puget Planners to prepare an independent plan for West Capitol Campus expansion and determine a site for the State Library. The project may have been largely symbolic since Puget Planners was given only 30 days to produce a final product. They made no consultation with the State Librarian or any staff, and only one short, no doubt awkward interview with Paul Thiry. Internal delays were becoming compounded and people were asking why construction was not underway.

On September 25, 1956, John L. Nordmark of Puget Planners presented the firm's findings to Olympia's Planning Commission. According to Reynolds, Thiry's site choice in the Capitol group was rejected in the report for five reasons:

- The Highway Department had planned the new highway to take advantage of the 'view' (Puget Planners' word) of the Capitol building.
- The Highway Department had planned a similar perimeter road and a bridge from the rear of the Transportation building over to the point.
- The Highway Department had planned a garage in the location south of the Transportation and Social Security buildings for the department's use and Motor Pool.
- The Highway Department had assured Puget Planners that they had the money ready and were waiting to build the perimeter road, the bridge, etc.
- There was money available for the garage to be built immediately.[57]

In her inimitable way, Reynolds quickly scheduled a meeting with William Bugge, Director of the Highway Department. According to her written account, he "flatly rejected all five of the points" saying, "none of them had any validity whatsoever." Nordmark hastily withdrew the findings against the Thiry site and shifted emphasis to building orientation. He recommended that the building should face west instead of north, an orientation opposed both by Thiry and the Washington State Library staff.[58]

On October 1, 1956, the Capitol Committee met yet again to decide the question of the Library's location. Mr. Nordmark of Puget Planners began an "extensive presentation" in which he recommended viewing the "library as [a] hinge between [the] present legislative group and [the] expanding administrative group" east of Capitol Way.[59] Puget Planners advocated a redesign of the West Capitol Campus based on three principal problems that they determined would affect the siting of the Library. These were:

- Vista: Development of a road along the West Capitol Campus (including possible expansion area), whereby they foresaw the Washington State Library would be visible from the freeway (then under construction). They objected to Thiry's site on the grounds it would obstruct the view.
- Parking concerns for current employees, legislators, and visitors: They intended to resolve this with a two- to three-story parking garage below the Library.
- Orientation of the Library in relation to its present and future needs: They considered Thiry's site did not allow for this, and they wanted the building to be the first of a new Administrative group in the West Capitol Campus expansion.

According to the State Capitol Committee Minutes, Thiry was unmoved by the Puget Planners findings and remained in favor of the site immediately south of the Legislative Building (current building location). His studied preference was based on the juxtaposition

[56] Taped interview with Thiry, December 1, 1989: 4.
[57] Reynolds, 2001: 62-63.
[58] Reynolds, 2001: 63.
[59] State Capitol Committee, Minutes, October 1, 1956: 7.

of existing buildings within the Wilder and White plan, proximity to the Capitol group, and the accommodation of specific library functions.[60]

Thiry looked at various other Capitol plans, including Washington D.C., to understand how the relationship between primary (Legislative Building) and secondary buildings was developed in both architectural and functional terms. According to Thiry, the existing Wilder and White plan needed only one to two buildings to be complete, which left the gap between the O'Brien (originally Transportation) and Cherberg (originally Public Lands-Social Security) buildings as the obvious location.[61] However the Wilder and White plan did not have a building in this location.

In Thiry's view, the previous library [in the basement of the Temple of Justice] was not visible enough. Thiry wanted an important site, at least in part because the State Library was an important aspect of the government and its home should take a proper place among the existing Capitol group. Comparatively, the Temple of Justice occupied a prominent location on the north side of the Legislative Building, and Thiry determined the Library should have equal standing, balancing the Temple of Justice on the north-south axis. According to the State Capitol Committee Minutes, Thiry felt that other than the "imaginary vista" proposed by Puget Planners, the building "would not interfere with any future planning, specifically campus expansion."[62] Thiry also allowed for future expansion of the Library by enlarging the stack area, rather than by increasing the building's overall height.

One of the prime considerations was that the building blend in with adjacent buildings and not interfere with the view from the south of the Capitol dome. In response to questions of function and orientation, Thiry acknowledged that the site was narrow, but that he had a functional plan for the location. Thiry's design called for a relatively small building compared to others in the Capitol group. However, locating the building on the rise of ground provided the stature needed, while permitting an operationally efficient one story plan for the main area. The stacks carried out the concept of a dome dominating the building, tying it into the original architectural plan, while its modern form would provide a stylistic transition between the Capitol group and any new architectural developments.

Both Thiry and the SLC were against turning the building to the west into the sun and prevailing weather on the grounds it would have limited the building as well as increase construction and operation costs. Thiry's orientation provided highly desirable north light for the main reading area and most of the offices. The case for the Thiry site addressed the facts that the state owned the site, it was elevated, allowed for future expansion, met the needs for library functions, and blended well with the rest of the West Capitol Campus arrangement.[63]

A decision on the site choice was lingering business for the Capitol Committee until the 1957 legislative session when Governor Rosellini signed the State Library Building Bill into law. The deliberations around the State Library Building launched the first substantive master planning for the modern Washington state Capitol Campus and introduced the general concept of the East Campus.

Construction

By May 14, 1957, following detailed consultation meetings with the Capitol Committee, SLC and State Librarian, Thiry's construction plans were accepted and authorized. He had a model prepared by July of that year and construction documents were finalized and distributed. Bids from construction contractors were opened on October 22, 1957. Thiry's economical design and clear specifications contributed in no small way to very favorable offers well below pre-bid estimates. Construction commenced by the firm of Kuney-Johnson Company on November 4, 1957, and the groundbreaking ceremony occurred on November 5, 1957, with Governor Albert D. Rosellini, Lloyd J. Andrews (State Superintendent of Public Instruction and chairman of the SLC), and Maryan E. Reynolds (State Librarian) in attendance. Just days over a year later on November 15, 1958, the building was ready for occupancy. A full ten days were required to move the Library's collection from the basement in the Temple of Justice into the new building. Following all of the delays in planning, the entire building was completed in just 12 months.

Dedication

Ultimately, the total cost of the building was $1.3 million, a well-managed $350,000 less than the appropriated amount. Of the total, $900,910.42 was for general construction, $141,036.46 for mechanical, $70,144.27 for electrical, $71,921.37 for furnishings, $34,297.61 for art and embellishments (including miscellaneous equipment and supplies) and $70,083.65 for the architect's fee (less than 6%). The contingency fund was set aside at 10% of the building cost.

[60] State Capitol Committee, Minutes, October 1, 1956.
[61] Meredith Clausen, Oral history interview with Paul Thiry, September 15 & 16, 1983.
[62] State Capitol Committee, Minutes, October 1, 1956.
[63] State Capitol Committee, Minutes, January 22, 1957 - December 1966: 1-2, 7, 15; and, taped interview with Thiry, December 1, 1989: 4-5.

On January 23, 1959, a formal building dedication was held. For many of those present, there was a triumphant sense of hard-earned satisfaction. Lloyd J. Andres, Chairman of the SLC, provided introductory remarks, followed by a victoriously toned address from Governor Albert D. Rosellini and friendly remarks by Bert Cole, Secretary of the Capitol Committee.

In a moment of rewarding personal meaning as well as symbolism, State Auditor Cliff Yelle presented the keys to Maryan Reynolds, and the Washington State Library finally had a monumental home of its own. Also in attendance were Supreme Court justices, their wives, and members of the SLC. Tours of the building were provided with Washington state authors welcoming guests in the Washington Room. Everett G. DuPen, James FitzGerald, Mark Tobey, Kenneth Callahan, and Paul Thiry all witnessed the ceremonies.[64]

An open house to meet the artists and authors was held on June 7, 1959 following the final installations of artwork. Organized principally by Mrs. Robert Finley and Mrs. Charles Donworth, the event was partly in response to controversy surrounding the artistic merits of the Tobey painting, as well as a desire to increase the public's awareness of and appreciation for the building. Over two thousand guests arrived from large and small communities across Washington and, again, the dependable advocates for the building within state government were present.

Hosting the event were Mrs. Albert D. Rosellini, Mr. and Mrs. Cliff Yelle, Mrs. Bert Cole, and six of the nine Supreme Court Justices and their wives (Chief Justice Frank P. Weaver, Robert C. Finley, Charles T. Donworth, Joseph A. Mallery, Robert T. Hunter, and Harry Ellsworth Foster). Kenneth Callahan, Everett DuPen, James FitzGerald, Chao-Chen Yang, John W. Elliott, and Paul Thiry, as well as Mrs. Thiry, Mrs. DuPen, Mrs. FitzGerald, Mrs. Yang, and Mrs. Elliott, were present to discuss and answer questions about the building and the artwork.

In the Washington Room amidst the Library's collection of Pacific Northwest materials and Callahan's mural, authors (including poet Theodore Roethke, historian Lucile McDonald, Elizabeth Rider Montgomery, Zoa Sherburne, Grace Dixon, Dorothy Fae Gould, Inez McLaughlin, Agnes Maaga, and Geraldine Brain Siks) were present to discuss Washington's cultural and historic heritage. Representing the SLC were George Norman Campbell from Kalama, Miss Dorothy Dakin, and, of course, Miss Maryan E. Reynolds.[65]

In the bookshelves that lined the room sat several leather bound volumes that had once come around Cape Horn in a case addressed to Territorial Governor Isaac Stevens, and nearby sat two antique globes, one showing a map of the world changed by 150 years of history and another showing the placement of the stars unchanged. At the time, the combination of art and architectural features set the building apart as one of the country's premier examples of library construction. For his design of the building, Thiry received the Award of Merit in the 1963 Library Buildings Award Program sponsored by the American Institute of Architects, the American Library Association, and the National Book Committee.

To the Library staff, this culmination of years of struggle marked their emergence onto the West Capitol Campus in a carefully placed and designed building that spoke both to the function of the Library within the state government and the value of their services. As the last monumental building to be added, the building brought to a close the building of the West state Capitol campus and sparked the beginnings of East Campus planning.[66]

Library Planning Influences

The building design embraced many of the ideals in library design taking form in the 1950s and implemented them on a monumental scale in a state public building. From the 1900s through the 1960s, library planning and design in the United States was evolving in response to changing societal preferences and needs; technological advances in library operation; and, in terms of the librarians, the desire to establish "a just place for the institution they represent."[67]

Prior to 1900, card catalogues, on a small scale, were only just coming into use. Amenities facilitating multiple floors and concentrated, compact storage were not available. Neither was planning for telephones, copy machines, computers, and micro reproduction systems a general consideration through much of the early 1900s. However, as library use and collection sizes increased, not only were operational changes necessary to keep pace. But by the late 1940s and 1950s libraries were also changing their visual character in response to a fundamental shift in how they were choosing to convey their role within society; changes often difficult to integrate into existing, relatively rigid, library designs.[68]

This change in visual character involved the transition from being solely civic monuments, to welcoming community and research resources. Simplicity of form, openness, and a flexible functional layout—all elements of Modernism—were the principal

[64] *Tacoma News Tribune*, May 31, 1959, in Tacoma Public Library, Washington State Library clippings file.
[65] News release prepared June 9, 1959 and Reynolds, 2001: 72.
[66] Lucile McDonald, "Washington's New State Library," *Seattle Times*, February 8, 1959: 19.
[67] Kroll, IV, 1960: 248-250.
[68] Metcalf, 1965: 9.

characteristics of what librarians were regarding as improved library designs. These changes also allowed for service and planning upgrades.[69]

According to an article in a 1952 issue of *Architectural Record*, influential factors motivating these design changes were:

- Rising construction costs;
- Necessity for improved efficiency and economy of operation and maintenance;
- Rapid growth in collection sizes;
- Increased expectation on quality of accommodations for archival purposes (such as climate control) and patron use (such as lighting, temperature, individual and semiprivate accommodations)
- Changing physical requirements resulting from technological advances in library operation (such as computers);
- Realization that the site bears a significant influence on library design and use (prominent versus remote, northern exposure versus southern);
- Increasing cooperation between library staff and architects, often with a library consultant between, to outline objectives, services (and their interrelationships), physical requirements, operational procedures, and identification of clientele.[70]

While the Washington State Library, was more a research center for legislators; it nevertheless drew heavily on these contemporary principles in library design to increase its operational efficiency and its capacity to better serve legislators and researchers.

From 1951 to 1955, the State Library Commission and the Washington State Library staff (particularly Maryan Reynolds, State Librarian) actively engaged in soliciting plans, specifications, as well as critiques and recommendations from other State Libraries (specifically Illinois, Ohio, Oregon, Michigan, New Jersey, and New York), higher education (including University of Idaho Library and the University of Oregon Library), and recently constructed libraries (including Grosse Pointe Public Library, ca 1953, Detroit).

Evaluation of the information received from these libraries, in conjunction with a systematic space analysis conducted by the State Library, led to the development of a building program used by Paul Thiry for the design process.

A prevailing consideration in library planning during the 1950s was the need for a prominent and accessible site—ideally a place of natural human convergence not a remote location. This suited the function of the State Library and its relation to the Capitol Buildings. As did the preference for north and east exposures due to their improved light, reduced glare, and sheltered approach they afforded patrons—a significant element within the decision on a site for the Washington State Library.

Library buildings also began featuring long frontages with broad, inviting glass expanses, street level entrances and attractive planting beds. While an elevated entrance was necessary for the State Library to maintain an appropriate stature and scale with relation to adjacent Capitol Buildings, the design incorporated the other elements described above. Reductions in entrance and lobby sizes, also evident in the building, increased functional interior space. While the anticipation of future additions, to accommodate growing collections, became increasingly relevant in planning and design—another important consideration in the decision on a site and orientation for the building.[71]

Instead of being divided into fixed, square rooms, the interiors featured freestanding partitions for flexible and adaptable division of spaces. Level floors minimized the need for stairs, while light floor-colors improved light reflection on lower shelves, as well as appearing cleaner longer. Elimination of closets and built-in features, and limiting fixed core areas reduced building costs and improved flexibility. Even distribution of ceiling lighting, as opposed to desk and floor lamps, allowed free positioning of reading desks (while remaining well lit) without the “clutter, contrasts, or numerous outlets.” Advances in climate control and lighting technology improved storage capabilities, staff and patron comfort, and enabled lower ceilings. Standard sizes (such as ceiling heights, or column spacing) minimized expensive custom furnishings and shelving. Comfortable, simple chairs, sofas and light tables replaced the long rows of tables and chairs. Reductions in table sizes in reference areas to accommodate four people improved their frequency and the concentration of use.[72]

Within the dramatic nationwide increase in public library construction following World War II through the 1960s, the Washington State Library was one of many new libraries providing a forum for these new design changes. The most remarkable aspect of the State Library is the manner in which Paul Thiry not only incorporated these elements into his design, but advantageously employed

[69] Mohrhardt, 1952: 149, 157.
[70] Charles M. Mohrhardt and Ralph A. Ulveling, “Public Libraries,” *Architectural Record*, vol. 112, December 1952: 149-172.
[71] Mohrhardt, 1952: 152, Metcalf, 1965: 15 -28.
[72] Mohrhardt, 1952: 152-154, Metcalf, 1965: 15 -28.

them to convey the Library's vital role. According to Kroll, this was achieved in a modern form capable of articulating a "sustained dynamism in the fulfillment of [its]...role," effectively asserting the Library's presence within the Capitol group.[73]

Site and Landscape Design

The elevated site on which the Washington State Library was located sloped gradually downward from the southeast to the north. This allowed the building both a prominent position despite its small stature, matching the scale of adjacent buildings, as well as a focal point site for the graduated ascent from the Legislative building across the flat intermediary terrace to the base of the Washington State Library. The west and southwest sides of the site dropped off sharply into the Deschutes Basin, affording a view out over Capitol Lake. Service and employee parking were located off the building's southeast corner.

The building featured plantings along the principle facade and northeast corner in two large planters elevated above the terrazzo walkway on either side of the portico (forming a pedestal for the portico). A third elevated planter stood off the building's northeast corner. Shrubs and a small tree in the northeast planter were indicated as existing in the landscape plan prepared by landscape architects Otto J. Holmdahl and Associates.

Holmdahl, in collaboration with Mr. Hart, the Division of Building and Grounds gardener, designed a formal walkway bordered by annuals. They designated the principal walkway to be along the north-south axis, with smaller, east-west walkways leading towards the Library stairs. Centered between the Legislative, Pritchard, O'Brien, and Cherberg buildings was John Elliot's sundial set on a terrazzo base with bronze dividers. It was framed by boxwood hedges on the diagonals. This arrangement provided a central focus for the four surrounding buildings.

Stretching east from the building's principal facade along the road across the site's north end were loosely grouped deciduous trees and shrubs. Existing conifers retained off the site's southeast corner along the outer edge of the parking area provided added context. Shrubs along the building's east side, southwest corner, and across the center of the stack's south wall softened the transition between grade and building.

An enclosure wall clad in Wilkeson sandstone along the site's rear southeast corner separated a courtyard for receiving deliveries and parking for library staff from public view. An aluminum gate between the north end of this enclosure wall and the southeast corner of the building's low frontal volume further inhibited public access to this courtyard.

Along the site's steep west slope and south end, a staggered series of deciduous trees planted in a diagonal line (north to south) stabilized the slope which was comprised largely of fill deposited since 1922. Boards were also used to hold low shrubs to the west slope, while two groupings of trees planted further down the slope softened the visual impact of the upper wall of trees. Overall, the landscaping served to both soften and call attention to spatial and landscape building transitions. The screen wall off of the southeast corner discretely separated utilitarian library operations from public view and access.

Architect & Landscape Architect

Paul Thiry

A contemporary U.S. architect, Paul Thiry (1904–1993) contributed to architectural development in the Pacific Northwest through his seminal introduction in the mid-1930s of the European modernist architecture to the Pacific Northwest. His design for the Washington State Library marked the end of construction on the core Capitol campus grounds.

Born in Nome, Alaska on September 11, 1904, to French parents, Thiry's father, Hippolette Thiry, worked as a mining engineer and his mother, Louise Schwaebel Thiry, designed and sold couture-grade women's apparel, first in Nome and then in Seattle. [74] Thiry attended St. Martin's Preparatory School, a Benedictine school in Lacey, graduating in 1920. He continued his studies at the University of Washington, studying pre-med before switching to architecture in the fall of 1923. At the time, the University of Washington's School of Architecture structured its curriculum according to the academic tradition of the Ecole des Beaux-Arts in Paris. Thiry graduated in 1928, after working in the offices of Seattle architects John Graham and Henry Bittman and studying for a summer in Fontainebleau, France. He opened his own office in Seattle in 1929, primarily designing churches and traditionally styled residences in Seattle and the surrounding area.

As the Depression set in, Thiry took the opportunity to attend the Century of Progress Exposition (1933) held in Chicago. Termed the "antithesis" of the 1893 World's Columbian Exposition, it was intended specifically as a forum for progressive ideas in building

[73] Kroll, IV, 1960: 248-250.
[74] Meredith L. Clausen, "Paul Thiry: The Emergence of Modernism in Northwest Architecture," *Pacific Northwest Quarterly* 74-75 (July 1984): 129.Clausen, 1984: 129.

technology, prefabrication, construction methods, standardized parts, and new materials that integrated then prevailing financial and material shortages. These ideas, coupled with the influence of European Modernism, a year long tour of India, China, Egypt, Europe and Central America in the 1930s during which he met both Le Corbusier and Antonin Raymond, as well as and exposure to Japanese architecture during a short stay in Tokyo, Japan, began to shape Thiry's emerging aesthetic. He is often credited as the "father of modernism" in Washington State.

Following World War II, the scope of Thiry's work expanded widely to include designs for educational facilities, museums, libraries, and commercial buildings. Thiry was active in the design of buildings in Seattle, including the Museum of History and Industry (1950; altered), Charles and Emma Frye Art Museum (1952); St. George Church (1953), and the Northeast Seattle Branch Library (1956). Thiry's successful design of the Northeast Branch Library likely influenced the State Library Commission's selection of him as the architect for the Washington State Library. Thiry's work on the library and his development of the first plan for eastward expansion of the Capitol campus (1958) led to his involvement in complex campus planning, including Washington State University (1958), the University of Washington Campus (1962), principal architect to for the Century 21 Exposition (1962), and Thiry's appointment (in 1963) to the AIA Committee on the National Capitol Building in Washington D.C. Thiry remained active in architecture through the 1980s until retiring for health reasons. He died at the age of 89 from congestive heart failure on June 27, 1993.[75]

Otto J. Holmdahl

Born in Falkenberg, Sweden, Otto Holmdahl (1883–1967) earned naval and landscape architecture degrees Chalmers University in Sweden.[76] Holmdahl immigrated to Vancouver, British Columbia in 1907. Holmdahl worked as a gardener in Everett in 1918. He became a naturalized citizen of the United States in 1919, the year he moved to Seattle. Holmdahl opened a professional design office in the city the same year, one of the first if not the first professional landscape architecture firms in the region. Over the next three decades he designed and implemented grounds plans for numerous private residences in and near Seattle, including many significant estates. In 1946, Holmdahl was among the founders of the Washington Society of Landscape Architects. Between 1954 and 1959, Holmdahl prepared landscaping for the Washington State Library in Olympia. Holmdahl contributed to the design of the University of Washington Arboretum. With Paul Thiry, Holmdahl served on the Seattle Municipal Arts Commission. In 1961/1962, Holmdahl served as principal landscape architect for Century 21 Exposition. He designed the landscaping for the International Plaza and the foundation plantings around the Northwest Rooms and the International Fountain Pavilion, as well as the rest of the fair grounds.

Kuney-Johnson Company

Founded in 1930 by Max J. Kuney and Lloyd W. Johnson, the company remains in operation and under Kuney family management as the 15th oldest construction company in Washington state as of 2015. Over the course of the company's 80 plus year history they have completed notable projects in Washington, Oregon, Montana, California, Idaho, and Alaska. The company developed extensive experience in the use of concrete, including the then longest continuous pour in Seattle's history in 1947 as part of constructing the S. L. Savidge, Inc. automobile showroom building, and in 1959 the first use of slip forms in concrete construction on the West Coast allowing faster concrete pours.[77] Notable buildings built by the company include the Federal Reserve Bank in downtown Seattle, Seattle's former Public Safety Building and Downtown Public Library, as well as 90-foot tall concrete silos on Harbor Island for Olympic Cement Storage Company and Northgate Mall.[78]

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The Washington State Archives provided the majority of information pertaining to the design, construction, and subsequent occupancy of the Capitol campus buildings. The Archives maintains a notable collection of original drawings.

The Washington State Department of Enterprises Services, Facilities Division, also maintains an impressive record of drawings, including specifications, in their Records Center.

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[75] Meredith Clausen, "Paul Thiry," in *Shaping Seattle Architecture*, ed. Jeffrey Karl Ochsner (Seattle: University of Washington Press, 1994), 251.
[76] "Otto Holmdahl, Landscaper," The Seattle Times, March 5, 1967.
[77] "New Process Speeds Building," The Seattle Times, April 7, 1959.
[78] "Harbor Island Silos Built for Storage of Cement," The Seattle Times, October 16, 1955.

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____ preliminary determination of individual listing (36 CFR 67 has been requested)
____ previously listed in the National Register
____ previously determined eligible by the National Register
____ designated a National Historic Landmark
____ recorded by Historic American Buildings Survey # __________
____ recorded by Historic American Engineering Record # __________
____ recorded by Historic American Landscape Survey # __________

Primary location of additional data:

X State Historic Preservation Office
X Other State agency
____ Federal agency
____ Local government
____ University
____ Other
Name of repository: Washington Dept. of Enterprise Services

Historic Resources Survey Number (if assigned):

DRAFT REPORT - INCLUDED FOR REFERECE ON STRUCTURAL ANALYIS OF ALTERNATE TO REMODEL/RENOVATE PRITCHARD

STRUCTURAL SUMMARY

Following is a summary of the structural design criteria for the project, considerations for the proposed sites, and a discussion of structural options. The report is divided into the following sections:

- DESIGN CONSIDERATIONS - The first section applies to the overall design of the two new buildings.
- NEWHOUSE SITE – Preferred structural option and considerations for the Senate Building
- PRITCHARD SITE – Preferred structural options and considerations for the House Office Building and Administrative Support Services. Modifications to the existing Pritchard Library structure and west retaining wall.
- CHERBERG BUILDING RENOVATION – Remodel in the existing building will not change existing structure and may only modify structure at floor penetrations for mechanical systems. No further discussion is included.

DESIGN CONSIDERATIONS

1. The selection of the individual members of the structural system shall consider the overall structure depth of each floor level and the effect on ceiling cavity and other systems. Height limits may influence the selection of the structural system.
2. The roof will likely be designed for a combination of photovoltaic systems, green roofs, and mechanical systems.
3. The lateral force-resisting system location shall have the least interference with the openness of the office floor plate. Walls around elevator lobbies, stairs and utility rooms are likely to used.
4. The lateral force-resisting system is expected to be designed for standard office occupancy and is not considered to be an immediate occupancy structure. This needs to be reviewed with the State to be clear that there are no emergency services housed in the buildings. If a building needs to be operational immediately after a major earthquake for emergency services, this will require an increase in structural resiliency.
5. Floor flatness shall meet industry standards for Class A office floors.
6. Floor vibration control shall meet relatively tight standards so there is minimal perceptibility by occupants, this is expected to be a higher standard than standard office structures.
7. The selection of the structural systems and materials may be influenced by the security and blast protection requirements as directed by the State. This may include structural hardening, progressive collapse design, interior systems blast resistance, and increased strength in the exterior envelope. Site provisions will also determine the structural system requirements, for instance, adequate standoff distances and high-speed vehicle barriers may reduce the costs of the internal building system strengthening. DES recommends use of a specialty firm such as Hinman Consultanting Engineers Inc to review system selection.
8. The 2018 Washington State Building Code will require higher seismic design forces than previous building codes and this has been considered in the preliminary system selection for the lateral

resisting systems and foundations. The preliminary geotechnical report by Shannon & Wilson provides preliminary site recommendations.

9. The soil conditions throughout the state capitol campus have required deep foundations and ground improvements on many sites. Shannon & Wilson recommends drilled pile foundations for support of this building. A site-specific ground motion analysis must be conducted prior to the schematic design phase of the project as required by the 2018 Washington State Building Code. Additional information is in the attached geotechnical report for the predesign study by Shannon and Wilson
10. Sustainable construction goals will guide material selection and recycling of existing building structures.

APPLICABLE CODE AND STANDARDS

The project will be governed by the 2018 Washington State Building Code with City of Olympia Amendments and the 2018 Washington State Energy Code. Both codes shall be considered in the selection and design of the structural system. The following criteria and building code minimum design loads for floors, roofs, wind, and seismic.

LOADING CRITIERIA

GRAVITY LOADING

The following loads are in addition to the self-weight of the structure. The following live loads are recommended by the building code. Live loads are reduced where permitted.

Table 1. Floor and Roof Loads

Area	Live Loading	Super-imposed Dead Load	Note
Offices & Upper Corridor	80 psf throughout or offices at 50psf+ 20 psf for partitions	10 psf	
Lobbies and Corridors on Main Floor	100 psf	20 psf	
Stairs/Exits	100 psf	10 psf	
Mechanical/Electrical Rooms	150 psf	10 psf	1
Storage (light)	125 psf	10 psf	
Roof	25 psf (R) or Snow Drift Load	25 psf includes PV	

Notes:

1. The live load for mechanical/electrical rooms will be 150 psf, or the actual weight of the equipment plus 50 psf for the surrounding space, whichever is greater.

In addition to these uniform loads, a perimeter dead load is applied to the structure to account for the weight of the cladding system.

Table 2. Cladding Loads – actual loads may differ depending on system selection and sizes.

Load Type	Load
Glass Window Wall	15 psf
Precast Panel	75psf
Metal Panel	10 psf

SNOW DESIGN CRITERIA

Snow drifting, unbalanced loading, and partial loading are sometimes considered in the design of the roof framing. The following parameters for snow loads are in accordance with the building code:

Table 3. Snow Design Criteria

Parameter	Value
Ground Snow Load (Pg)	20 psf
Risk Category	II
Terrain Category	B
Exposure	Partially Exposed
Snow Exposure Factor (Ce)	1.0
Thermal Factor	1.2
Importance Factor (Is)	1.0
Flat Roof Snow Load (Pf)	25 psf

WIND DESIGN CRITERIA

The following parameters for wind loads are in accordance with the building code:

Table 4. Wind Design Criteria

Parameter	Value
Basic Wind Speed, 3-second gust (V)	97 mph
Exposure	B
Enclosure Classification	Enclosed
Topographic Factor	To Be Determined

SEISMIC DESIGN CRITERIA

The following parameters for seismic loads are in accordance with the IBC:

Table 5. Seismic Design Criteria

Parameter	Values at Newhouse Site	Values at Pritchard Site
Risk Category	II	II
Importance Factor (Ie)	1.0	1.0
Mapped Spectral Acceleration	Ss = 1.41; S1 = 0.52	Ss = 1.41; S1 = 0.52
Mapped Long Period	TL = 16 sec	TL =16 sec
Site Class	D	E
Site Class Coefficients	Fa = 1.00; Fv = 1.79	Fa = 1.20; Fv = 2.15
Spectral Response Coefficients	SDS = 0.94; SD1 = 0.62	SDS = 1.13; SD1 = 0.75
Seismic Design Category	D	D
Analysis Procedure Used	Modal Response Spectrum Analysis	Modal Response Spectrum Analysis

MATERIALS

The material properties used for the design include the following:

Table 6. Structural Steel Properties

Member	Standard, Strength
Wide Flange Shapes	ASTM A992, Fy = 50 ksi ASTM A913, Fy = 50 ksi
Tube Sections	ASTM A500, Gr B, Fy = 46 ksi
Pipe Sections	ASTM A53, Type E or S Grade B, Fy = 35 ksi
Angle and Channel Sections	ASTM A36, Fy = 36 ksi
Miscellaneous Plates	ASTM 572, Fy = 50 ksi
High-Strength Bolts	ASTM A325 or A490

Table 7. Concrete Properties

Member	Standard, Strength
Slab on Ground, Sidewalks, Curbs, Mechanical pads	f'c = 4,000 psi
Basement walls & footings, Spread Footings	f'c = 5,000 psi
Mat Foundations	f'c = 6,000 psi at 56 days
Shear Walls and Columns	f'c = 6,000 psi
Reinforcing Steel	ASTM A615, Grade 60 ASTM A415, Grade 60

STRUCTURAL OPTIONS

The options evaluated in the pre-design report include two conditions for each of the sites. The Senate Building on the Newhouse Site may be three or four stories. The House Building on the Pritchard Site considers a renovation of a portion of the existing building or replacement with all new construction. These options and the expected structural systems are in the following table:

Table 8. Structural Systems

OPTIONS	NEWHOUSE SITE FOUNDATIONS	NEWHOUSE STRUCTURE	PRITCHARD SITE FOUNDATIONS	PRITCHARD EXISTING BUILDING NORTH PORTION	PRITCHARD SITE NEW STRUCTURE	HILLSIDE SLOPE PROTECTION	QUANTITIES
A.1	PILES	3-STORY STEEL	PILES	RENOVATE	3-STORY STEEL	SECANT RETAINING WALL	TABLES 9, 10, & 11 AND RETAINING WALL SCHEME 1
A.2	PILES	4-STORY STEEL	PILES	RENOVATE	3-STORY STEEL	SECANT RETAINING WALL	TABLES 9, 10 & 11 AND RETAINING WALL SCHEME 1

B.1	PILES	3-STORY STEEL	PILES	REMOVE	3-STORY STEEL	NO WALL, BLDG SET BACK & CANTILEVERED	TABLES 9 & 12
B.2	PILES	4-STORY STEEL	PILES	REMOVE	3-STORY STEEL	NO WALL, BLDG SET BACK & CANTILEVERED	TABLES 9 & 12

NEWHOUSE SITE

The Senate Building will be three to four stories as shown in all of the options. This will require removal of the existing building, including the basement. Existing foundations may remain if they do not interfere with the new pile foundations. The new site work in the existing building footprint will need to be filled with compacted soils.

FOUNDATIONS

Foundations will be concrete pile caps supported by concrete augercast piles. The piles are 24-inch diameter with an average length of 100 feet below ground. Quantity is shown in table below. Piles will support continuous pile caps at the exterior walls and shear walls. Individual pile caps will be located at the columns. Additional information about the foundation conditions and options are discussed in the geotechnical report.

The ground floor will be a 4-inch slab on ground. The existing basement area will be filled with compacted structural fill. Outside the existing footprint, top soils and approximately 4'-0" of soil will be over-excavated and recompacted below slab.

GRAVITY AND LATERAL FRAMING SYSTEM

The building on this site is expected to be constructed of structural steel framing with concrete on metal deck floors and roof. The selection of structural system will be controlled by the design considerations mentioned above, the configuration of the building, and the physical security requirements.

The steel frame will be wide-flange columns and beams with buckling-resistant-braces to resist wind and seismic forces. The exterior beams will be welded to columns for continuity as needed for progressive collapse resistance. The steel beams and columns will be fire-proofed with spray-on fireproofing or may be wrapped with multiple layers of gypsum wallboard. Structural floor system depth may be in the range of 24" to 36" depending on span lengths and floor layout.

The main floor for this building is not expected to be pile supported with the rest of the structure because the liquefaction settlements are less than at the Pritchard site. This means that an earthquake could cause floor settlement and damage to finishes. Careful detailing will be required to protect exit paths and life-safety.

Table 9. Newhouse Site Estimated Quantities

ITEM	ESTIMATED QUANITY
BACKFILL	Compacted structural fill in area of existing basement that is removed
24" DIA x 100 ' LONG REINFORCED PILES	40 for 3-story options; 50 for 4-story option
PILE CAPS	Located at columns and grade beams between all columns
GROUND FLOOR	4" concrete slab on compacted fill
UPPER FLOORS AND ROOF	Structural steel framing: 12 psf
BUCKLING RESTRAINED BRACES	6 total per floor
FLOOR SYSTEM	4-1/2" concrete over 2" metal deck with reinforcing and headed studs on steel beams. (2-1/2" may be acceptable at roof depending on equipment)
ADDITONAL	Added cost for perimeter welding and misc steel for cladding support

PRITCHARD SITE

OPTIONS A.1 AND A.2

Options A.1 and A.2 for this site includes the removal of the south portion of the existing Pritchard Library and the substantial upgrade to the remaining north section. This will require the protection of the steep slope on the west side of the building and structural upgrades to the building that include repairing cracked concrete and adding seismic resistance.

PROTECTION OF STEEP SLOPE

According to the pre-design geotechnical report, the hillside on the west side of the existing Pritchard Library is potentially unstable. An earthquake may cause the hillside soils to lose strength and cause a slide that could undermine the soils beneath the building. It is recommended that the soils beneath the building are retained by a retaining wall. In addition to the retaining wall, the geotechnical report recommends that the buildings be supported on pile foundations to reduce the risk of settlements in the liquefaction prone soils. Settlements of the foundations of the building could cause structural damage to the extent that collapse of the existing building could occur.

SOIL CONDITIONS AND WEST RETAINING WALL

The Pritchard Site is susceptible to liquidation settlements in an earthquake. Differential settlements of 6" may occur across the site and would cause substantial damage to structures. Due to the liquefaction potential, the new building will be supported on auger-cast concrete piles. The lower floor will be a structural slab spanning to the pile caps so that it does not settle away from the building structure. This provides the least risk for injury to occupants in an earthquake.

The Pritchard Site is on the southwest side of the main state capitol campus and is very close to a steep slope. The geotechnical report by Shannon & Wilson for the predesign study indicates that the slope is stable under static loads but is at risk of slides in heavy rains and during an earthquake. If the slope slides, it may potentially undermine the soils under the existing Pritchard Building as well as any new construction that is within 100 feet of the top of the slope. This means that even if we support the new structure on piles, the soils may slide and leave the building effectively standing on stilts. This will cause heavy damage to the utilities serving the building and cause a high risk to the safety of occupants exiting the building.

For these reasons the geotechnical report recommends that a large retaining wall be constructed on the west side of the new construction and the Pritchard Building to protect the soils beneath both structures and improve life safety. The construction of this retaining wall is discussed in the West Retaining Wall Section below.

PRITCHARD LIBRARY RENOVATION

The original construction of 1957 does not meet current seismic safety standards and the building has not had seismic upgrades. The conditions of the south, tower section of the Library and it's lack of usable area, indicate that it is not practical in any scenario to upgrade this portion of the structure. Demolition of the south portion is an appropriate solution due to the configuration of the building above and lack of seismic strength. The pre-design options remove the south portion and seismically strengthening the remaining North Section.

The new building will be seismically isolated from the remaining North Section of the Pritchard Library.

Seismic Performance Objective

Renovation of the North Section will require extensive upgrades to all of the buildings aging systems. It will also require structural strengthening to meet the seismic performance requirements for existing buildings in the Washington State Existing Building Code. It is recommended that the upgrade of the structure and nonstructural components be designed for the requirements of AISC 41-17 "Seismic Evaluations and Retrofit of Existing Buildings". The first step in this process is to determine the level of seismic performance.

The use of Life Safety Performance Level is based on the following criteria:

- The building will be used for office support functions and is not expected to be operational after a major event, thus Seismic Risk Category is II
- The historic status of the building will limit the feasibility of some of the upgrade measures
- Costs of upgrades to the structure, along with non-structural components is significant and limiting the Performance Objective will make it viable

Life Safety Performance Level is described as an objective that is the Basic Performance Objective for Existing Buildings (BPOE). It is likely that some components of the structure and the nonstructural systems may not be economically feasible to upgrade or may be disruptive to historic finishes. If this limits the upgrade measures, this will be reviewed with the City of Olympia Building Permits & Land Use Review Department early in the design phase.

For the renovation of the North Section of the Pritchard Library, we recommend the following strengthening criteria:

- Structural Performance Level S-3, Life Safety, is defined as the post-earthquake damage state in which a structure has damaged components but retains a margin of safety against the onset of partial or total collapse. This includes analysis of Life Safety Performance at BSE-1E and Collapse Prevention Performance at BSE-2E.
- Non-Structural Performance Level will meet the Hazards Reduced Nonstructural Performance Level N-D for existing systems remaining in place. This is defined as the post-earthquake state in which nonstructural components are damaged and could potentially create falling hazards, but high-hazard nonstructural components are secured to prevent falling into areas such as the lobby and reading room. New components will meet new building code requirements.

Basic Safety Earthquake Levels

- BSE-1E: Basic Safety Earthquake-1 for use with the Basic Performance Objective for Existing Buildings, taken as a seismic hazard with a 20% probability of exceedance in 50 years.
- BSE-2E: Basic Safety Earthquake-2 for use with the Basic Performance Objective for Existing Buildings, taken as a seismic hazard with a 5% probability of exceedance in 50 years.

Deficiencies

The discussion below describes the deficiencies and repairs for three categories:

1. Gravity framing – floors, roof and columns for support of live loads. Live loads are the weight of occupants, furniture, partitions, mechanical/electrical systems, snow and rain.
2. Lateral force-resisting system – the structure that resists wind and seismic forces.
3. Nonstructural systems – the exterior enclosure system, interior partitions, and mechanical/electrical equipment supports

1. Gravity Framing
   The Main Floor is a cast-in-place concrete waffle slab designed for 100 psf and is adequate as constructed. The Roof is a cast-in-place beam and slab system that cantilevers beyond the exterior walls. It was designed for 25 psf and is adequate for standard show loading but will require repair of numerous cracks. The Roof is supported on concrete columns that are not reinforced well enough for ductile behavior and will require a fiber-wrap coating to improve support in an earthquake.

2. Lateral Force-Resisting System

   The North Section has a high story at Main Floor over a basement level. This area lacks seismic capacity and ductility. Steel bracing will be required at four locations on the Main Floor and additional concrete walls at the basement

   Liquefaction potential has been identified on this site and the new lateral force-resisting systems will need to have deep pile foundations for support. This is expected to be micropiles at the frame columns and all existing column footings.

3. Nonstructural elements are all likely to be deficient for seismic forces. Some historic finishes will remain in place. Aged mechanical systems will meet new building code standards wherever new systems are installed.
   These include:
   - Interior partitions
   - Exterior stone cladding (to remain in place) and windows
   - Mechanical and electrical equipment
   - Ceilings and mechanical distribution systems are unbraced.

Repairs

The following repairs are preliminary estimates to upgrade the deficiencies listed above.

Table 10. Pritchard Library Repair Estimates

DEFICIENCY	REPAIR QUANTITIES
FOUNDATIONS	Micropiles at every existing column footing and the new frame columns. 48- 100 foot long piles, rebar dowels to existing footings, and concrete caps. See Figure 5
LATERAL FORCE-RESISTING SYSTEM	Add 12 steel columns and 6 braces at locations over the basement walls. 18 tons of steel
CONNECTION TO ROOF SLAB	Steel angles or tube to be added to the top of the roof slab to drag forces into the frames with through-bolts at the brace connections. 5 tons of steel
DUCTILE TIES IN COLUMNS	Fiberwrap fabric applied around all concrete columns – 38 columns x 15’ tall
BASEMENT WALLS	Add 20 feet of concrete wall in portion of the south wall where building was removed, below new steel frame
CONCRETE CRACK REPAIR	Existing roof beams and slabs have visible cracks to be pressure grouted Assume 200 feet of crack repair
EXTERIOR STONE PANELS	Visual evaluation of the panel connections has not been performed and panel connectors may need upgrades
MECHANICAL AND ELECTRICAL EQUIPMENT	Assumed replaced
CEILINGS AND DISTRIBUTION SYSTEMS	Assumed replaced

OPTION A.1 AND A.2 NEW ADDITION

The new addition is estimated to be steel frame with concrete on metal deck similar to the Senate Building. For these options alternatives can be evaluated during the design phase. These may include steel frame with CLT floor panels or a mass timber frame building. Concrete structure is not recommended due to the weight of the building on pile foundations.

Table 11. Pritchard Site New Addition Estimated Quantities

ITEM	ESTIMATED QUANITY
BACKFILL	Compacted structural fill in area of existing basement that is removed
24” DIA x 100 ’ LONG REINFORCED PILES	90 piles
PILE CAPS	Located at columns and along basement walls
BASEMENT WALLS	12” concrete walls
GROUND FLOOR	8” Reinforced concrete two-way slab spanning to walls or pile caps on compacted fill and thickened slab edge
UPPER FLOORS AND ROOF	Structural steel framing: 13 psf
BUCKLING RESTRAINED BRACES	8 total per floor
FLOOR SYSTEM	4-1/2” concrete over 2” metal deck with reinforcing and headed studs on steel beams. (2-1/2” may be acceptable at roof depending on equipment)
ADDITONAL	Added cost for perimeter welding and misc steel for cladding support

WEST RETAINING WALL

As noted above a retaining wall on the west side of the existing Pritchard Building and new addition is recommended by the Geotechnical Report to improve life-safety. This wall is estimated to be a continuous secant pile wall constructed with 6-foot diameter drilled piles that overlap to create a solid wall. The piles will extend 100 feet below grade due to the height of the slope and potential slide zone. The wall location is shown on Figure 1 and 2.

Heavy equipment is required to build a wall of this size and in preliminary review it appears that the top of the slope is too close to the existing Pritchard Building to gain safe access to drill the piles for the wall. There are two schemes considered for building this wall and the risks and feasibility are as follows. Scheme 1 is included in the cost estimate.

<u>Retaining Wall Construction Scheme 1</u>

Figure 1 shows an option for building the secant pile wall with the least disturbance to the existing structure. This scheme is a plan to build separate secant pile walls that have a gap between them at the area that is not accessible to heavy equipment. The plan shows approximately 20-foot gap but that will need more careful evaluation with a constructability review during design. This gap will need to be filled with a wall that is installed with smaller equipment and may be a tieback soldier pile wall installed from the downslope side of the wall. Disruption to the trees and undergrowth on the upper part of the wall is expected. Environmental assessment is needed to determine the viability of this scheme. The secant pile wall is estimated as 200 feet and the soldier pile wall as 20 feet.

This scheme does not have the same level of risk reduction as Scheme 2 because the wall between the two secant pile walls will not extend as deep and protect the ground floor slab as well. The level of risk will need to be evaluated during the design phase to determine if it is acceptable. This does, however, provide the same protection for the new addition as Scheme 2.

Retaining Wall Construction Scheme 2

Figure 2 shows the secant pile wall in the same location as Scheme 1 except that it is continuous and is 220 feet long. In order to build this wall, it is assumed that parts of the existing Pritchard Building North Portion will need to be demolished to allow heavy equipment access and rebuilt afterwards. Figures 3 and 4 show the following expected work:

1. Demolish the South Portion of the building as shown on the Architectural Demolition Plans.
2. Demolish the west 40 feet by 40 feet section of the Main Floor and Roof. The Main floor is a concrete waffle slab that will require temporary shoring. The roof is a concrete beam and slab that will also need shoring in the adjacent remaining bays as noted on the figures. The basement walls will be cut down to the level of the grade outside the building, approximately 9-feet about the basement floor.
3. Fill the open basement section with compacted soils or geofoam to support construction loads. Regrade around the remaining building for access of the heavy equipment.
4. Build the secant pile wall.
5. Install the micropiles at the building columns.
6. Rebuilding the main floor and the roof structure to match existing and tie together with rebar dowels. This will likely be concurrent with building the seismic upgrades to the structure.

OPTIONS B.1 AND B.2

The replacement building on the Pritchard Site for these options replaces the existing structure. To optimize cost, the options set the foundations of the building 100 feet from the top of the slope on the west side. This distance is recommended by the geotechnical report to protect the building without building a retaining wall.

The upper floors are cantilevered to the west over the setback Level 01 and foundations. Building is estimated to be a steel frame building with concrete on metal deck. The cantilever portion is estimated to be supported by two story steel trusses built on site that connect back into the structural braced frames. CLT framing is not recommended for the cantilever portion of the building.

Table 12. Replacement Building Estimated Quantities

ITEM	ESTIMATED QUANITY
BACKFILL	Compacted structural fill in area of existing basement that is removed
24" DIA x 100 ' LONG REINFORCED PILES	140 piles
PILE CAPS	Located at columns and along basement walls
BASEMENT WALLS	12" concrete walls
GROUND FLOOR	8" Reinforced concrete two-way slab spanning to walls or pile caps on compacted fill and thickened slab edge
UPPER FLOORS AND ROOF	Structural steel framing: 13 psf plus 110 tons for trusses supporting cantilever
BUCKLING RESTRAINED BRACES	10 total per floor
FLOOR SYSTEM	4-1/2" concrete over 2" metal deck with reinforcing and headed studs on steel beams. (2-1/2" may be acceptable at roof depending on equipment)
ADDITONAL	Added cost for perimeter welding and misc steel for cladding support

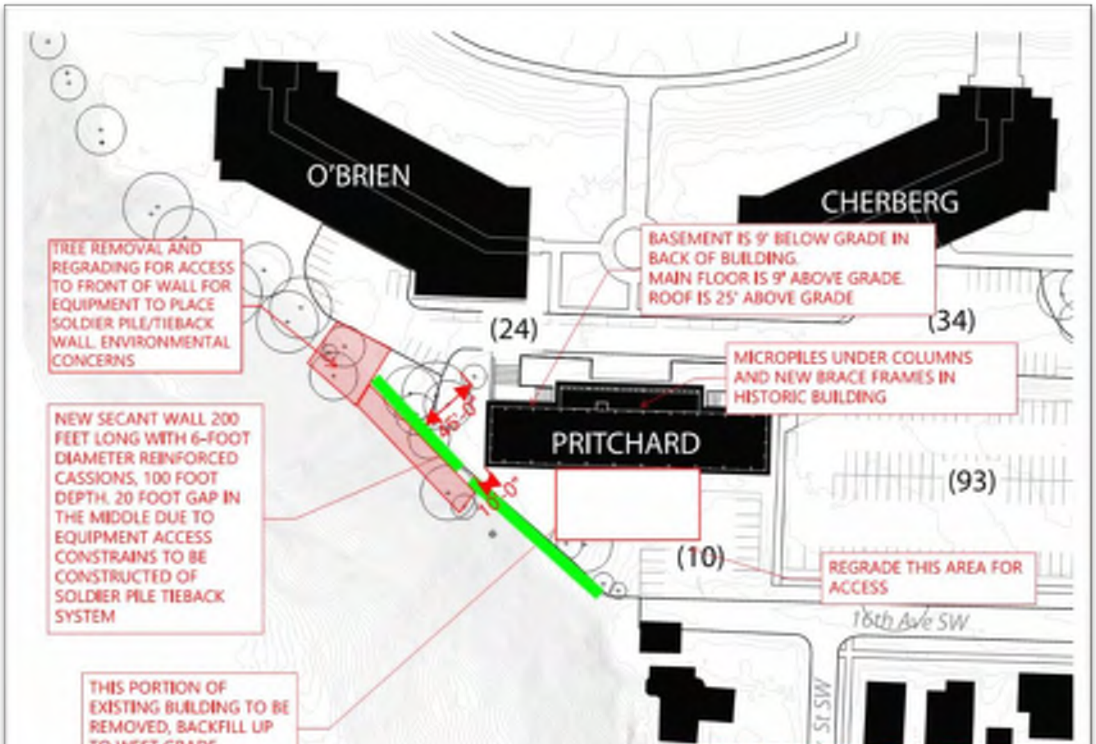

FIGURE 1 - RETAINING WALL LOCATION SCHEME 1

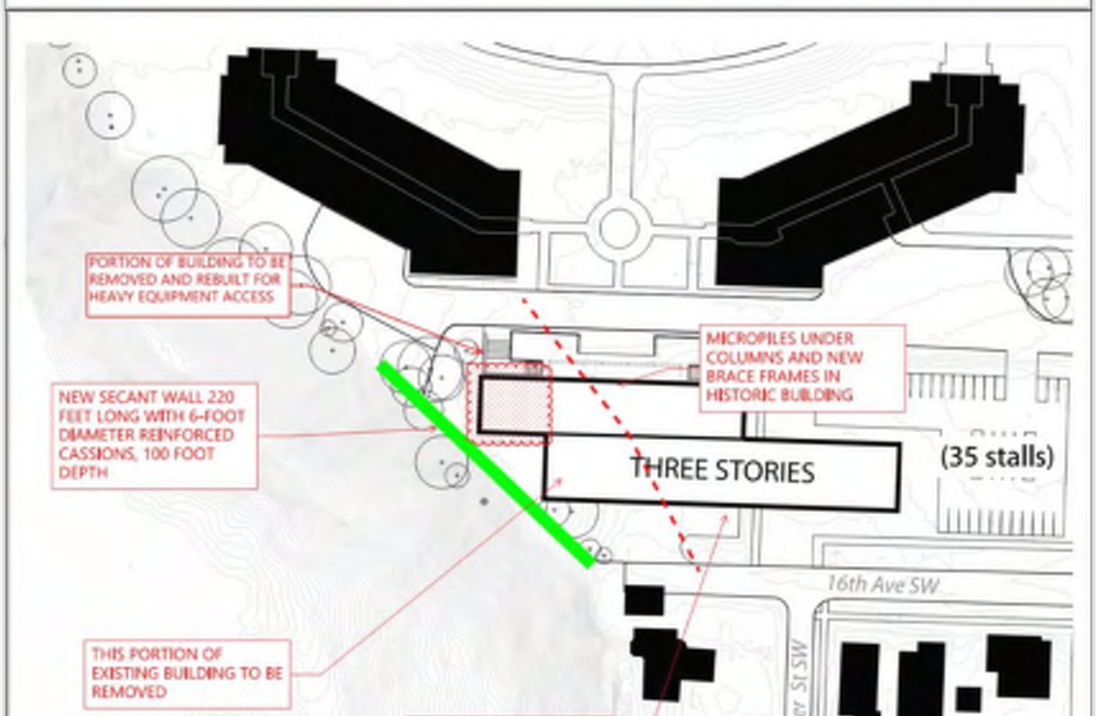

FIGURE 2 - RETAINING WALL LOCATION

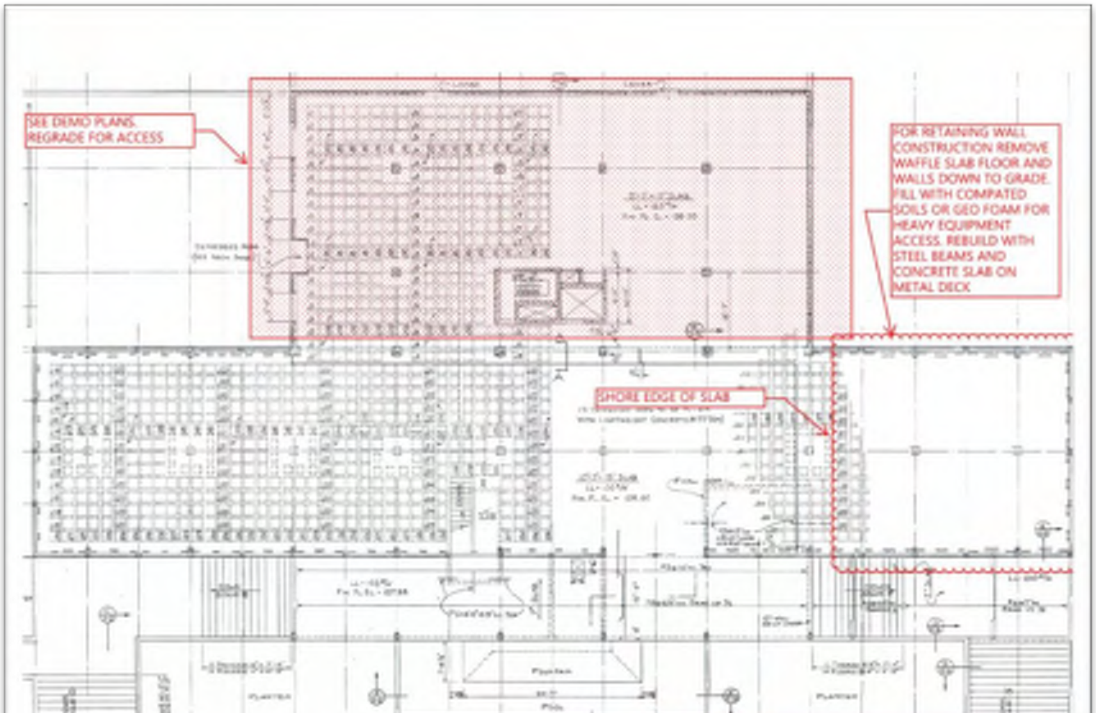

FIGURE 3
RETAINING WALL SCHEME 2
PRITCHARD MAIN FLOOR

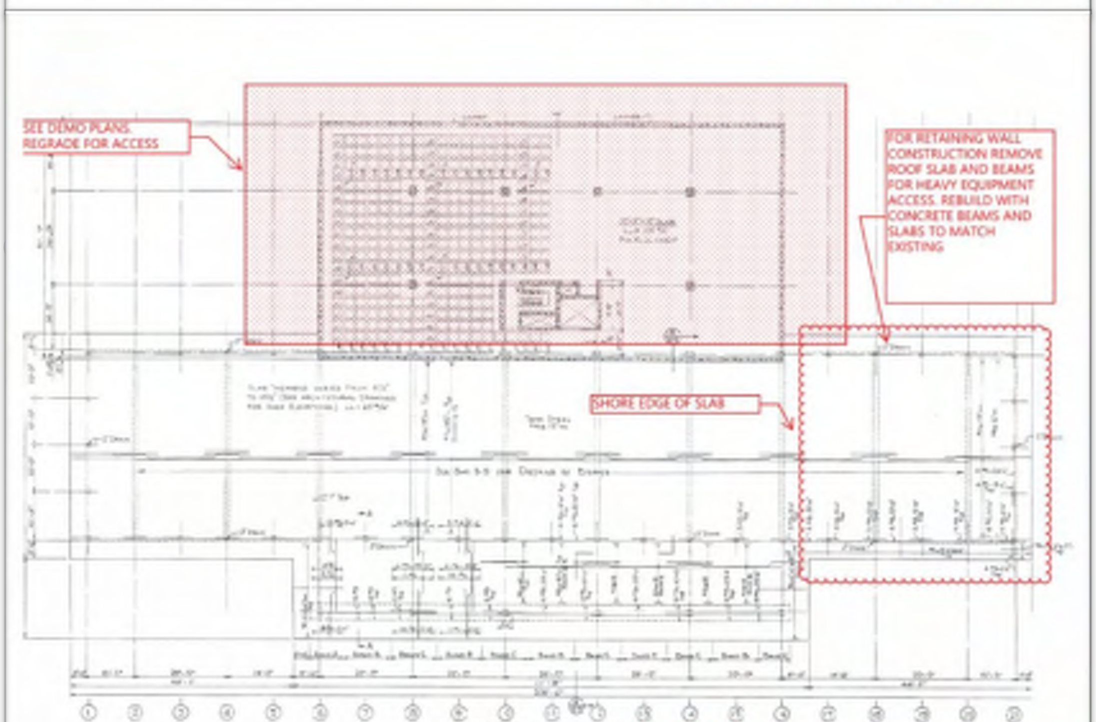

FIGURE 4
RETAINING WALL SCHEME 2
PRITCHARD ROOF

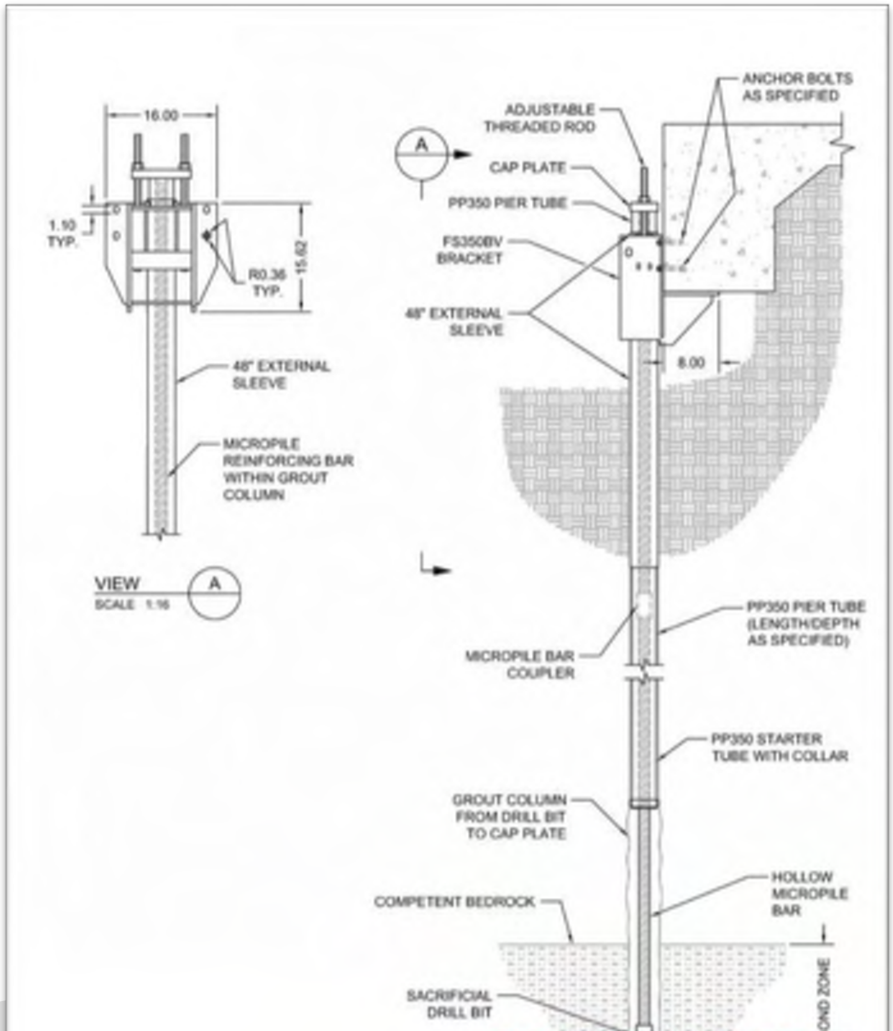

FIGURE 5 - MICROPILE EXAMPLE