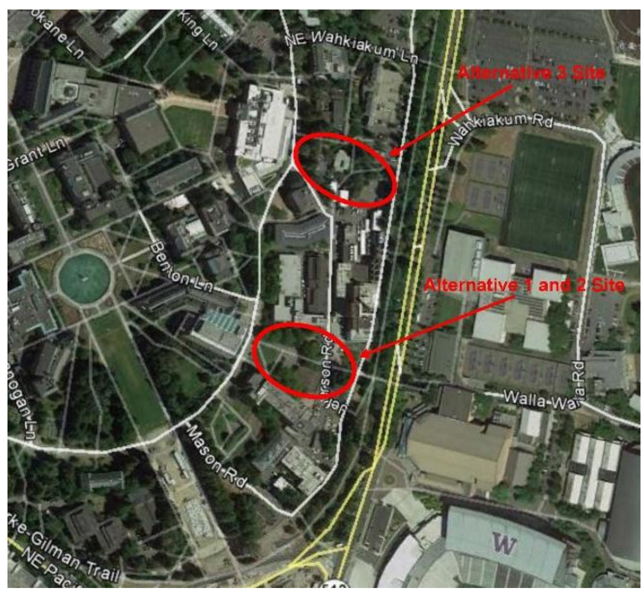
UNIVERSITY OF WASHINGTON COMPUTER SCIENCE AND ENGINEERING II PROJECT

Draft Supplemental Environmental Impact Statement



UNIVERSITY OF WASHINGTON

October 2015

DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

for the

UNIVERSITY of WASHINGTON

Computer Science and Engineering II Project

University of Washington

Capital Projects Office

The Draft Supplemental EIS (Draft SEIS) for the University of Washington *Computer Science and Engineering II Project ha*s been prepared in compliance with the State Environmental Policy Act (SEPA) of 1971 (Chapter 43.21C, Revised Code of Washington); the SEPA Rules, effective April 4, 1984, as amended (Chapter 197-11, Washington Administrative Code); and rules adopted by the University of Washington implementing SEPA (478-324 WAC). Preparation of this Draft SEIS is the responsibility of the University's Capital Projects Office. The Capital Projects Office and the University's SEPA Advisory Committee have determined that this document has been prepared in a responsible manner using appropriate methodology and they have directed the areas of research and analysis that were undertaken in preparation of this Draft SEIS. This document is not an authorization for an action, nor does it constitute a decision or a recommendation for an action; in its final form, it will accompany the *Proposed Action* and will be considered in making the final decisions on the proposal.

Date of Draft SEIS Issuance .... October 8, 2015

Date Comments are Due on the
Draft SEIS .... November 9, 2015

FACT SHEET

PROJECT TITLE	**University of Washington Computer Science and Engineering II (CSE II) Project**
PROPONENT/APPLICANT	University of Washington
LOCATION	Two sites are analyzed as part of this SEIS: Site 16C and Site 14C. Site 16C is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west. Site 14C is generally bounded by the University of Washington Faculty Club Building and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west
PROPOSED ACTION	Development of a new computer science and engineering building that meets the needs, goals and objectives of the Department of Computer Science and Engineering.
EIS ALTERNATIVES	For the purposes of environmental review, four alternatives are analyzed in this Draft SEIS, including Alternative 1 – Preferred Alternative: Development of CSE II Project on Site 16C; Alternative 2 – Development of the CSE II Project on Site 16C and Retention of More Hall Annex[1] (two design scenarios); Alternative 3 – Development of the CSE II Project on Site 14C (two design scenarios); and, Alternative 4 – No Action Alternative. In addition, two design scenarios are analyzed under Alternatives 2 and 3.

[1] On August 29, 2007, the United States Nuclear Regulatory Commission (NRC) terminated the facility operating license for the More Hall Annex and released the facility for unrestricted use (see Appendix D for a copy of the letter).

Alternative 1 – Preferred Alternative: Development of CSE II Project on Site 16C

Under Alternative 1, the proposed CSE II Project would be located on Development Site 16C and development of the project would include the removal of the existing More Hall Annex Building. The proposed four and a half-story building would contain approximately 134,000 gross square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, administrative areas, and student/faculty support spaces. Of the approximately 134,000 gross square feet of building area, approximately 109,250 square feet would be considered above-ground space and approximately 24,750 square feet would be considered below-ground space.

Alternative 2 - Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Given the design challenges of meeting the CSE II program goals on Site 16C while retaining all or a portion of More Hall Annex, two design scenarios are analyzed for Alternative 2

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain on the site and the CSE II Building would surround the Annex on the north, east and west sides of the More Hall Annex. Approximately 30 to 40 feet of separation would be provided between the CSE II Building and More Hall Annex on each side and the CSE II Building would not connect to the More Hall Annex at the surface level. The two buildings would be connected at the basement, and the lower level of the More Hall Annex would be utilized as part of the new CSE II Building; the upper penthouse portion of the More Hall Annex would not be utilized as a portion of the CSE II Building. The CSE II Building would include four and a half stories (including a basement level) and contain the same building area and provide the same uses as under Alternative 1.

Under Alternative 2 – Scenario 2.2, the existing More Hall Annex would be retained on the site and the CSE II Building would be constructed to the north, east and west of the More Hall Annex. The two buildings would be connected at the basement and Level 1 portion of the CSE II Building and the existing More Hall Annex space would utilized as part of the new building on both levels. Under this scenario, the CSE II Building would include four and a half stories (including a basement level) and would also contain the same amount of building area and building uses as described under Alternative 1.

Alternative 3 – Development of CSE II Project on Site 14C

Two design scenarios are also analyzed under Alternative 3 for development of the CSE II Project on Site 14C.

Alternative 3 – Scenario 3.1 would construct the CSE II Building as a low rise building (four levels, including a partial basement) in an east-west orientation along the northern portion of Site 14C. Approximately 130,000 square feet of building space would be provide, including a similar mix of uses as Alternative 1.

Alternative 3 – Scenario 3.2 would construct the CSE II Building as a high-rise building (seven levels, including a partial basement) with a north-south orientation along Stevens Way and Jefferson Road. Approximately 130,000 square feet of building space would be provided with a similar mix of uses as Alternative 1.

Alternative 4 – No Action Alternative

Under the No Action Alternative, the *CSE II Project* would not be constructed and the existing uses on the site would remain (More Hall Annex on Development Site 16C and University Facilities Buildings and Plant Operation Annex Buildings on

Development Site 14C). The CSE Program would continue to utilize the existing Paul G. Allen Center and would likely experience increasing capacity and facility deficiencies.

LEAD AGENCY University of Washington, Capital Projects Office

SEPA RESPONSIBLE OFFICIAL

Jan Arntz
Environmental and Land Use Compliance Officer
University of Washington
Capital Projects Office
University Facilities Building
Box 352205
Seattle, WA 98125-2205

CONTACT PERSON

Jan Arntz
Environmental and Land Use Compliance Officer
University of Washington
Capital Projects Office
University Facilities Building
Box 352205
Seattle, WA 98195-2205
Phone: (206) 543-5200
Fax: (206) 543-1277
E-mail: Jarntz@uw.edu

PURPOSE OF THIS DRAFT SEIS

This Draft SEIS supplements the *2003 University of Washington Master Plan-Seattle Campus* EIS (*CMP-Seattle 2003*). This Draft SEIS provides supplemental environmental analysis of environmental issues associated with the proposed *CSE II Project* that were not analyzed in the *CMP-Seattle 2003* EIS.

This Draft SEIS is intended to address the potential for significant adverse environmental impacts that could occur as a result of the Proposed Action. The SEPA environmental review process is designed to be used along with other decision-making factors to provide a comprehensive review of the proposal (WAC 197-11-055). The purpose of SEPA is to ensure that environmental values are given appropriate deliberation, along with other considerations.

FINAL ACTION

The decision by the Board of Regents, after consideration of environmental impacts and mitigation, to select a development alternative, approve the project and authorize award of the General Contractor/Construction Manager (GC/CM) contract by the Capital Projects Office.

PERMITS AND APPROVALS

Preliminary investigation indicates that the following permits and/or approvals could be required or requested for the Proposed Actions. Additional permits/approvals may be identified during the review process associated with specific development projects.

University of Washington

- Project Approval, design approvals, authorization to prepare contract documents, and authorization to Call-for-Bids.

Agencies with Jurisdiction

- ***State of Washington***
  - Dept. of Labor and Industries
  - Dept. of Ecology, Construction Stormwater General Permit

- ***City of Seattle***
  - Master Use Permit
  - Grading Permit
  - Shoring Permit
  - Building Permits
  - Electrical Permits
  - Mechanical Permits
  - Occupancy Permits
  - Comprehensive Drainage Control Plain, Inspection and Maintenance Schedule
  - Construction Stormwater Control Plan Approvals

- ***Seattle-King County Department of Health***
  - Plumbing Permits

- ***Puget Sound Clean Air Agency***
  - Demolition and Asbestos Notification

DRAFT SEIS AUTHORS AND PRINCIPAL CONTRIBUTORS

The *CSE II Project* Draft SEIS has been prepared under the direction of the University's Capital Projects Office and analyses were provided by the following consulting firms:

Draft SEIS Project Manager, Primary Author, Construction, Aesthetics/Views, and Transportation.
EA Engineering, Science and Technology, Inc.
2200 Sixth Avenue, Suite 707
Seattle, WA 98121

Historic and Cultural Resources
The Johnson Partnership
1212 NE 65th Street
Seattle, WA 98115

Historic Research Associates, Inc.
1904 Third Avenue, Suite 240
Seattle, WA 98101

PREVIOUS ENVIRONMENTAL DOCUMENTS

Per WAC 191-11-635, this Draft SEIS incorporates by reference the following environmental document:

- University of Washington Master Plan-Seattle Campus EIS (2003)

LOCATION OF BACKGROUND INFORMATION

Background material and supporting documents are located at the office of:

University of Washington
Capital Projects Office
University Facilities Building
Box 352205
Seattle, WA 98195-2205
(206) 543-5200

DATE OF DRAFT SEIS ISSUANCE

October 8, 2015

DATE DRAFT SEIS COMMENTS ARE DUE

Pursuant to the SEPA Rules (WAC 197-11-502), a 30-day comment period is required for Draft EIS documents. Comments on the Draft SEIS are due on:

November 9, 2015

PUBLIC HEARING

A public hearing for the Draft SEIS has been schedule for October 26, 2015 from 4:00 PM to 7:00 PM. The public hearing will be held at:

Kane Hall Room 225 – the Walker Ames Room
University of Washington, Seattle Campus.

AVAILABILITY OF THE DRAFT SEIS

This Draft SEIS has been distributed to agencies, organizations and individuals noted on the Distribution List contained in **Appendix A** to this document. Copies of the Draft SEIS are also available for review at the University's Capital Projects Office (University Facilities Building), on the University's Online Public Information Center (http://f2.washington.edu/cpo/university-washington%E2%80%99s-sepa-online-public-information-center-0), and at the following University and Seattle Public Libraries:

University of Washington

- Suzzallo Library
- Architecture and Urban Planning (Gould Hall)

Seattle Public Libraries

- Downtown Central Library (1000 Fourth Avenue)
- University District Branch (5009 Roosevelt Way NE)
- Montlake Branch (2300 24th Avenue E)

A limited number of copies of this Draft SEIS are available at the University's Facilities Building while the supply lasts. Additional copies may be purchased at the University's Facilities Building for the cost of reproduction.

TABLE OF CONTENTS

LIST OF TABLES

Table **Page**

LIST OF FIGURES

Figure **Page**

CHAPTER 1

Summary

CHAPTER 1
SUMMARY

1.1 INTRODUCTION

This chapter provides a summary of the Draft Supplemental Environmental Impact Statement (Draft SEIS) for the University of Washington Computer Science and Engineering II (CSE II) Project. **Chapter 1** briefly describes the Proposed Action and the EIS Alternatives (Alternative 1, Alternative 2, Alternative 3 and Alternative 4), and contains a comprehensive overview of environmental impacts identified for the alternatives. Please see **Chapter 2** of this Draft SEIS for a more detailed description of the Proposed Action and alternatives and **Chapter 3** for a detailed description of the affected environment, environmental impacts, mitigation measures, and significant unavoidable adverse impacts.

The primary mission of the University of Washington is the preservation, advancement and dissemination of knowledge and as one of the University's fastest growing programs, the CSE Program contributes significantly to the University's ability to fulfill its primary mission. The CSE Program includes two undergraduate programs (Computer Science in the College of Arts and Sciences, and Computer Engineering in the College of Engineering) and a graduate program. The CSE Program currently has approximately 600 undergraduate students, 375 graduate students, as well as 50 faculty members and 50 staff members (*University of Washington, 2015*).

Currently, the CSE Program is primarily housed in the six-story Paul G. Allen Center for Computer Science and Engineering which was constructed in 2003 and contains approximately 160,000 gross square feet of building area. The CSE Program has grown significantly at every level (undergraduate students, graduate students, faculty, staff, etc.) to meet the high demand in the region for CSE graduates and research. Due to the success of the CSE program's educational and research initiatives, the amount of space in the Paul G. Allen Center is substantially short of the current program needs and the deficiency becomes even greater when taking into account the consistent rate of program growth. The proposed CSE II Project would provide additional academic and research space to meet the current and future needs of the CSE Program while maintaining connections and allowing continued collaboration with the existing CSE Program within the Paul G. Allen Center. The preferred location of the CSE II Project, across Stevens Way NE from the Paul G. Allen Center, would allow for the creation of a unified CSE complex and allow for collaboration between students, faculty and staff within the two buildings.

The preferred site for the proposed CSE II Project is identified in the University of Washington Seattle Campus Master Plan (*CMP-Seattle 2003*) as Development Site 16C. The Project would include four stories and approximately 134,000 square feet of academic and research uses, and would provide space for classrooms, offices, research areas, communal spaces, administrative areas, and support space.

For the purposes of environmental review, four alternatives are analyzed in this Draft SEIS, including Alternative 1 – Preferred Alternative: Development of CSE II Project on Site 16C; Alternative 2 – Development of the CSE II Project on Site 16C and Retention of More Hall Annex[1] (two design scenarios); Alternative 3 – Development of the CSE II Project on Site 14C (two design scenarios); and, Alternative 4 – No Action Alternative. In addition, two design scenarios are analyzed under Alternatives 2 and 3.

Alternative 1 – Preferred Alternative: Development of CSE II Project on Site 16C

Location

The approximately 2.2-acre (97,500-square foot) Alternative 1 site (CMP-Seattle 2003 Development Site 16C) is located in the Central Campus of the University of Washington and is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west.

Design Concept

The CSE II Project under Alternative 1 would provide additional academic and research space to meet the current and future needs of the CSE Program in a location that would allow for a unified CSE Program Complex (immediately east of the existing Paul G. Allen Center for Computer Science and Engineering) and continued collaboration between faculty, staff and students. Under Alternative 1, the proposed CSE II Project would be located on Development Site 16C and development of the project would include the removal of the existing More Hall Annex Building (listed in the National Register of Historic Places [NRHP]). The proposed four and a half-story building would contain approximately 134,000 gross square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, administrative areas, and student/faculty support spaces. Of the approximately 134,000 gross square feet of building area, approximately 109,250 square feet would be considered above-ground space and approximately 24,750 square feet would be considered below-ground space. The proposed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The design under Alternative 1 would also maintain pedestrian circulation through the site via an

[1] On August 29, 2007, the United States Nuclear Regulatory Commission (NRC) terminated the facility operating license for the More Hall Annex and released the facility for unrestricted use (see Appendix D for a copy of the letter).

enhanced Snohomish Lane pathway to preserve and enhance the connection between the Central Campus and areas to the east.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Location

Under Alternative 2, the Computer Science and Engineering II Project would be located on the approximately 2.2-acre Development Site 16C as described above for Alternative 1, and would include the retention of the existing More Hall Annex.

Design Concept

Under Alternative 2, the Computer Science and Engineering II Project would be located on Development Site 16C and would include the retention of the existing More Hall Annex. Given the design challenges of meeting the CSE II program goals on the site while retaining all or a portion of More Hall Annex, two design approaches are analyzed in this SEIS (Scenario 2.1 and Scenario 2.2).

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain on the site and the CSE II Building would surround the Annex on the north, east and west sides of the More Hall Annex; approximately 30 to 40 feet of separation would be provided between the CSE II Building and More Hall Annex on each side. The two buildings would be connected at the basement level only and the More Hall Annex would be utilized as part of the new CSE II Building for robotics laboratory space and seminar space; the level 1 (penthouse) portion of the More Hall Annex would remain unutilized. The CSE II Building would include four and a half stories (including a basement level) and contain the same building area and provide the same uses as under Alternative 1 (approximately 134,000 square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, and student/faculty support spaces). The location and configuration of the new CSE II Building ("C"-shaped upper levels) would provide a frame around the existing More Hall Annex on the north, east and west sides in order to provide a buffer between the two structures and maintain as much of the original character of the More Hall Annex as feasible. However, the location of the CSE II Building would effectively block the view of the More Hall Annex from Stevens Way to the west, Jefferson Road to the north and Mason Road to the east. In addition, the location of the CSE II Building under this scenario would also result in modifications to the alignment of Snohomish Lane through the site area and block the existing view corridor to Lake Washington.

Under Alternative 2 – Scenario 2.2, the existing More Hall Annex would be retained on the site and the CSE II Building would be constructed to the north, east and west of the More Hall Annex. The CSE II Building under this scenario would feature a similar configuration as Alternative 2 – Scenario 2.1 ("C"-shaped configuration on the upper levels); however, the new building would be connected to the More Hall Annex at both the basement and ground floor levels and no buffer would be provided between the Annex and the CSE II Building (compared to only a basement level connection under Scenario 2.1); the building would be a similar height and provided similar building space and uses as Alternative 1 and Scenario 2.1. Similar to Scenario 2.1, development under this scenario would obstruct views of the More Hall Annex from Stevens Way, Jefferson Road and Mason Road. Under Scenario 2.2, the location and orientation of the CSE II Building would require the realignment of the existing Snohomish Lane pathway through the site. The west end of the pathway would be realigned at the northwest corner of the site to accommodate the CSE II Building. The path would travel along the northern edge of the CSE II Building and shift to the south along the eastern edge of the building to reconnect with the existing pathway and Snohomish Overpass/Hec Edmundson Bridge to the east. Snohomish Lane under this scenario would result in a more circuitous pedestrian route than under the existing conditions and Alternative 1.

Alternative 3 – Development of the CSE II Project on Site 14C

Location

The approximately 1.9-acre (83,500-square foot) Alternative 3 site (CMP-Seattle 2003 Development Site 14C) is also located in the Central Campus of the University of Washington and is generally bounded by the University of Washington Club Building and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west.

Design Concept

Under Alternative 3, the CSE II Building would be located on Development Site 14C and would include the removal of the existing buildings on the site (University Facilities Buildings and Plant Operation Annex Buildings); existing uses (and associated staff) on the site would be relocated prior to construction and could require the development or acquisition of new office space to accommodate the displaced uses. Alternative 3 includes two development scenarios for the CSE II Building on the site, Scenario 3.1 and Scenario 3.2.

Under Alternative 3 – Scenario 3.1, the CSE II Building would be constructed on the northern portion of Site 14C, between Stevens Way and Mason Road. The design of the building would include a low-rise, four-story structure (including partial basement) with approximately 130,000 square feet of building space. Of the total building area, approximately 111,200 square feet would be considered above-ground space and approximately 18,800 square feet would be considered below-ground space. The building would be approximately 48 feet in height which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*. The location of the CSE II Building on

Site 14C would result in a disconnect between the existing CSE Program uses in the Paul G. Allen Center and the proposed new building and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The orientation of the CSE II Building in an east-west direction along the northern edge of Site 14C would result in the building spanning the existing north-south vehicular roadway and pedestrian connection between Stevens Way, University Parking Area C19, and Jefferson Road. As a result, the proposed building height under this scenario would impact views from the existing adjacent University of Washington Club Building to the north.

Under Alternative 3 – Scenario 3.2, the CSE II Building would be constructed on the western portion of Site 14C, adjacent to Stevens Way and Jefferson Road. The design of the building under this scenario would include a high-rise, seven-story structure (including a partial basement) with approximately 130,000 square feet of building space. Of the total building area, approximately 118,280 square feet would be considered above-ground space and approximately 9,500 square feet would be considered below-ground space. The CSE II Building would be approximately 75 feet tall, which would be below the 105-foot height limit that is established for the site under the *CMP-Seattle 2003*. Similar to Scenario 3.1, development under this scenario would result in a disconnect between the existing CSE uses in the Paul G. Allen Center and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The orientation of the building on the site would maintain the existing views from the University of Washington Club Building to the north; however, certain views from HUB to the west could be obstructed with development under Scenario 3.2. In addition, the configuration of the building as a high-rise structure under Scenario 3.2 would result in smaller floor plates which would further divide uses within the building and associated opportunities for collaboration.

Alternative 4 – No Action Alternative

Under Alternative 4 – No Action Alternative, the proposed CSE II Project would not be constructed and the existing uses on the site would remain (More Hall Annex on Development Site 16C and University Facilities Buildings and Plant Operation Annex Buildings on Development Site 14C). The CSE Program would continue to utilize the existing Paul G. Allen Center and would likely experience capacity and facility deficiencies in the near future.

1.2 IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The following highlights the impacts, mitigation measures, and significant unavoidable adverse impacts that would potentially result from the alternatives analyzed in this Draft SEIS. **Table 1-1** provides a summary of the potential impacts that would be anticipated under the Draft SEIS Alternatives. This summary is not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3**.

Table 1-1
IMPACT SUMMARY MATRIX

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
3.1 – AESTHETICS/LIGHT AND GLARE					
Visual Character: • *Proposed Site Development* – The existing More Hall Annex, paved pathways and landscape areas would be demolished, and the new four and a half-story, approximately 134,000 gross square foot CSE II Building would be built on the site. The massing and exterior design would be intended to reinforce the relationship between the Paul G. Allen Center and the CSE II Building. A new plaza, pathways and landscaping would also be provided. • *Visual Impact* – Development of the CSE II Project would substantially change the views of the site to reflect a large, four and half-story building that would be generally consistent in size with other buildings in the area. The Snohomish Lane pathway would be shifted slightly to the north but would continue to provide a continuous line-of-sight visual corridor to the east of the site.	• Under Scenario 2.1, the More Hall Annex would remain and the four and a half-story CSE II Building would be constructed around it with 30-40 ft. of separation between the buildings. Massing and exterior design would be similar to Alt. 1. • Views would change similar to Alt. 1; views of the More Hall Annex would be limited compared to existing conditions. Views to the east from Snohomish Lane would be obstructed.	• Under Scenario 2.2 the four and a half-story CSE II Building would be connected to the More Hall Annex. Massing and exterior design would be similar to Alt. 1. • Similar to Scenario 2.1, views of More Hall Annex would limited compared to existing conditions. Views to the east from Snohomish Lane would be obstructed.	• Under Scenario 3.1, the four-story CSE II Building would located in the north portion of Site 14C. Exterior design and materials would be intended to complement the surrounding campus context. • Views would change to reflect a large four-story building. The CSE II Building would be visible along Stevens Way and would affect views from the UW Club.	• Under Scenario 3.2, the seven-story CSE II Building would be constructed on the western portion of Site 14C. Exterior design and materials would be intended to complement the surrounding campus context. • Views would change to large seven-story building. The CSE II Building would be generally taller than surrounding uses. The building would be prominently visible from Stevens Way, but would not affect views from the UW Club.	• Under the No Action Alt. no new development would occur and the existing aesthetic character would remain. • No changes to existing views would occur.
Light and Glare: • *Light* – The proposed buildings would add new light sources to the site, but the proposed lighting system would	• Under Scenario 2.1, new light sources and lighting levels would	• Under Scenario 2.2, new light sources and lighting levels	• Under Scenario 3.1, new light sources and lighting levels would	• Under Scenario 3.2, new light sources and lighting levels	• No new light sources would be added to the

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
be designed to minimize light impacts to offsite uses. Light emanating from the buildings is anticipated to be similar to that of recently constructed campus buildings in the vicinity, including the Paul G. Allen Center, the HUB and Molecular Engineering. The proposed lighting system would be designed to minimize impacts to offsite uses and enhance pedestrian circulation and safety.	be similar to Alt. 1.	would be similar to Alt. 1.	be similar to Alt. 1.	would be similar to Alt. 1.	sites.
• *Glare* – Solar glare would be generated by new building sources, including building surfaces, pavement, and vehicles. Specific building materials have not been determined at this point but would be chosen to help minimize glare impacts. New landscaping and retained trees would also help minimize glare associated with new development.	• Glare generated under Scenario 2.1 is anticipated to be similar to Alt. 1.	• Glare generated under Scenario 2.2 is anticipated to be similar to Alt. 1.	• Glare generated under Scenario 3.1 is anticipated to be similar to Alt. 1.	• Glare generated under Scenario 3.2 is anticipated to be similar to Alt. 1.	• No new glare sources would be added to the sites.
3.2 – HISTORIC RESOURCES					
Historic Resources (Buildings and Spaces): • *Site Buildings: More Hall Annex* – The More Hall Annex (listed in the NRHP) would be demolished and removal would be considered a direct adverse impact. Mitigation measure would be provided including documentation and archival photos per Washington State DAHP Mitigation Standards Level 1. Potential mitigation could	• Under Scenario 2.1, the More Hall Annex would be retained, but the building's site integrity and views would be partially degraded by the new CSE II Building and would be an adverse	• Under Scenario 2.2, the More Hall Annex would be incorporated into the CSE II Building. Incorporation would alter the Annex's integrity and would be an adverse	• *Site Buildings:* None of the existing onsite buildings (Facilities Services Admin Building, University Facilities Building, Plant Operations Anne 4 and Plant Operations Annex 2) are	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and no impacts to historic resources would be anticipated.

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
also include the relocation of More Hall Annex to a new site on campus.	impact, but less than the irretrievable loss of the building.	impact, but less than the permanent loss of the building.	considered eligible for listing and demolition would not be an adverse impact.		
• *Site Open Spaces: Snohomish Lane* – Snohomish Lane would be retained in its general historic alignment and would provide a continuous line-of-sight. No direct adverse impacts would occur.	• Snohomish Lane would be rerouted and would be considered an adverse impact.	• Snohomish Lane would be rerouted and would be considered an adverse impact.	• No impacts to Snohomish Lane.	• Similar to Scenario 3.1.	• Snohomish Lane would remain in its current configuration.
• *Site Vicinity Buildings and Spaces: Mechanical Engineering Annex* – The Mechanical Engineering Annex is considered eligible for listing in historic registers. Development of Alternative 1 would not be considered to have an adverse impact on the Mechanical Engineering Annex. • *Site Vicinity Buildings and Spaces: Mechanical Engineering Building* – The Mechanical Engineering Building is not considered eligible for historic registers and development of Alternative 1 would not be considered to have an adverse impact on the Mechanical Engineering Building. • *Site Vicinity Buildings and Spaces: More Hall* – More Hall is considered eligible for listing on historic registers. Development under Alternative 1	• Similar to Alternative 1, but views toward the Engineering Annex from Snohomish Lane would be obstructed and would be considered an adverse impact. • Similar to Alternative 1. • Similar to Alternative 1, but views toward More Hall from E Stevens Way would be	• Similar to Alternative 1. • Similar to Alternative 1. • Similar to Alternative 1.	• *Site Vicinity Buildings and Spaces: UW Club-* – The UW Club is listed on the NRHP. Development under Scenario 3.1 would obstruct a portion of views from the UW Club and would be considered an adverse impact.	• Under Scenario 3.2, the CSE II Building would not be visible from the UW Club and adverse impacts are not anticipated.	• The CSE II Project would not be built and existing conditions would remain.

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
would not create indirect adverse impacts to the building and would not be anticipated to affect the eligibility of the More Hall • *Site Vicinity Buildings and Spaces: Power Plant* – The Power Plant is not considered eligible for historic registers and development under Alternative 1 would not result in an adverse impact.	decreased and considered and adverse impact. • Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Alternative 1.	
Cultural Resources (Archaeology): • Site 16C has a high probability for precontact to ethnohistoric period cultural remains. The site has been subject to development including grading and excavation; however, if prehistoric materials remain, they would include lithic and/or bone tools, lithic tools and debris, fragments of fire-modified rock, etc. The likelihood of finding historic-period archaeological remains is higher given the history of the site. Mitigation measures have been identified for the inadvertent discovery of cultural resources.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Site 14C has a moderate to high probability for precontact and ethnohistoric cultural remains. The likelihood of finding historic-period archaeological remains is higher given the history of the site. Mitigation measures have been identified for the inadvertent discovery of cultural resources.	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and no impacts to cultural resources would be anticipated.
3.3 – TRANSPORTATION					
Construction Traffic: • Proposed staging area and construction parking would be coordinated with the GCCM and UW. Construction routes would also be	• Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Scenario 3.1.	• The CSE II Project would not be built and no construction

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
determined by the GCCM and UW, and approved by the City. • Removal of cut material and the import of fill material would result in approximately 528 truck trips generated to and from the site. These trips would occur over the buildout period and would be distributed so that significant traffic impacts would not be anticipated. • Pedestrian and bicycle routes through and adjacent to the site would be temporarily affected by construction. Temporary detour routes would be provided for Snohomish Lane and pedestrian and bicycle traffic would be routed through and/or around the site. • Bicycle and vehicle parking on the site would be temporarily displaced and temporary replacement of bicycle parking would be provided in a location near the site.	• Grading activities would result in approximately 681 truck trips generated to and from the site. • Similar to Alternative 1. • Similar to Alternative 1.	• Grading activities would result in approximately 675 truck trips generated to and from the site. • Similar to Alternative 1. • Similar to Alternative 1.	• Removal of cut material and the import of fill material would result in approximately 428 truck trips generated to and from the site. • Pedestrian and bicycle routes would be routed around the site to connect the Central Campus with Mason Road NE and the Burke Gilman Trail. • Similar to Alternative 1.	• Similar to Scenario 3.1. • Similar to Scenario 3.1. • Similar to Scenario 3.1.	traffic impacts would occur. • No excavation or grading would occur. • Construction-related pedestrian and bicycle traffic impacts would not occur. • Construction-related parking displacement would not occur.
Operational Traffic: • After construction, primary vehicle access would be provided from Stevens Way NE. Access through the site on Jefferson Road and Mason Road would be maintained an allow for appropriate height clearance requirements for existing surrounding	• Similar to Alternative 1.	• Similar to Alternative 1.	• Primary vehicle access would continue to be provided from Stevens Way NE and Jefferson Road NE. The existing north-south roadway would also be	• Similar to Scenario 3.1.	• Construction-related traffic impacts would not occur.

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
uses (approx. 16 feet for Jefferson Road and approx. 23 feet for Mason Road).			maintained.		
• Snohomish Lane would travel along the north portion of the CSE II Building (slightly north of the existing alignment) and provide access to the building as well as between Central Campus and areas to the east. The orientation of Snohomish Lane would align with a planned future separate project for the Snohomish Overpass Bridge but the final design and alignment for Snohomish Lane will continue to be developed. If the future alignment results in a temporary disconnect with the Snohomish Overpass Bridge a striped diagonal crosswalk on Mason Road could be provided.	• Snohomish Lane would be realigned through the site between the More Hall Annex and CSE II Building and would result in a more circuitous route. The configuration and alignment with the future Snohomish Overpass Bridge would be similar to Alternative 1.	• Snohomish Lane would be realigned north of its existing alignment and would result in a more circuitous route. The configuration and alignment with the future Snohomish Overpass Bridge would be similar to Alternative 1.	• Pedestrian and bicycle access would continue to be provided by Stevens Way NE and Jefferson Road NE.	• Similar to Scenario 3.1.	• Construction-related impacts to Snohomish Lane and other pedestrian and bicycle pathways would not occur.
• A new outdoor plaza would be provided on the western portion of the site to create a pedestrian "mixing zone" and unify the two CSE Buildings.	• Similar to Alternative 1.	• Similar to Alternative 1.	• A courtyard would be provide near Stevens Way NE to create a hub for pedestrian and bicycle traffic.	• Similar to Scenario 3.1.	• Construction-related traffic impacts would not occur.
• Approximately 28 parking spaces in the C12 and C15 lots would be temporarily displaced; nine of which would be permanently displaced. Similar to parking procedures for other campus uses, staff and student parking is not provided onsite.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Approximately 60 spaces would be temporarily displaced and restored. Staff and student parking would not be provided onsite.	• Similar to Scenario 3.1.	• Construction-related parking impacts would not occur.

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
• Approximately 105 bicycle parking spaces would be provided in along Snohomish Lane and at the southeast portion of the site.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Alternative 1.	• Similar to Scenario 3.1.	• Construction-related bicycle parking impacts would not occur.
3.4 – CONSTRUCTION					
Construction Activities: • Construction activities would include the removal of the existing More Hall Annex, pavement, landscaping, and existing vegetation; excavation and grading; and, construction of the CSE II Project. The demolition of the More Hall Annex would be conducted in accordance with the requirements of the US NRC. Approximately 9,500 cubic yards of cut would be removed, and 170 cubic yards of fill imported.	• Construction activities would be similar to Alternative 1; however, the More Hall Annex would not be demolished. Grading would require approx. 11,300 cubic yards of cut and 1,115 cubic yards of fill.	• Similar to Scenario 2.1.	• Construction activities would be similar to Alt. 1 and would include the removal of existing buildings and construction of the CSE II Project. Grading would require approx. 7,500 cubic yards of cut and 350 cubic yards of fill.	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and no construction-related impacts would occur.
Air Quality: • Construction activities on the site would generate air pollutants from fugitive dust, excavation/earthwork activities, and emissions from construction vehicles and equipment. Emissions would be temporary in nature and localized to the immediate vicinity of the construction site. Uses in the nearby vicinity such as More Hall, the Mechanical Engineering Building, the Engineering Annex, and the Paul G. Allen Center could be sensitive to fugitive dust and emissions from the site. Demolition of	• Construction on the site would generate air pollutants from fugitive dust, excavation and earthwork activities, and emissions from construction vehicles and equipment similar to Alt. 1. The amount of dust associated with demolition would be less than Alt. 1 but dust from grading	• Similar to Scenario 2.1.	• Construction would generate air pollutants similar to Alt. 1; however, the amount of dust would be greater due to the increased amount of building demolition that would be required. Adjacent uses (UW Club, Engineering Library, Loew Hall, the HUB, etc.) could be sensitive	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and construction-related air quality impacts would not occur.

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
More Hall Annex would be conducted in accordance with applicable requirements of the USNRC.	would be greater than Alt. 1.		to dust and emissions.		
Greenhouse Gas Emissions: • The proposed development would generate GHG emissions associated with construction activities and operation of the new CSE II Building. Over the lifespan of the building, the project is expected to generate approximately 139,791 $MTCO_2e$ emissions, equating to approximately 2,237 $MTCO_2e$ over the building's estimated lifespan of 62.5 years.	• Similar to Alternative 1.	• Similar to Scenario 2.1.	• Similar to Alternative 1.	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and construction-related GHG emission impacts would not occur.
Noise: • Localized noise levels would increase temporarily during construction and may affect users in the site vicinity, particularly academic uses (More Hall, Mechanical Engineering Building, Engineering Annex, and Paul G. Allen Center). These impacts would be temporary in nature, and measures would be taken to mitigate noise levels during construction.	• Construction noise would be similar to Alt. 1. Noise from demolition would be less and noise from grading would be greater than Alt. 1.	• Similar to Scenario 2.1.	• Construction noise would be similar to Alt. 1 and would temporarily affect adjacent uses (UW Club, Engineering Library, Loew Hall, the HUB and Plant Ops Building).	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and construction-related noise impacts would not occur.
Vibration: • The use of heavy equipment during construction would create vibration that could affect sensitive research equipment. However existing adjacent computer science and engineering programs do not typically	• Construction activities would generate vibration levels that would be similar to Alt. 1.	• Similar to Scenario 2.1.	• Similar to Alternative 1.	• Similar to Scenario 3.1.	• The CSE II Project would not be constructed and construction-related vibration impacts would

Alternative 1 – Site 16C	Alternative 2 – Site 16C		Alternative 3 – Site 14C		Alternative 4
Preferred Alternative	**Scenario 2.1**	**Scenario 2.2**	**Scenario 3.1**	**Scenario 3.2**	**No Action**
employ this kind of highly sensitive equipment, and vibration is not anticipated to result in significant impacts. However, to the extent feasible, construction activities would utilize practices to minimize vibration levels.					not occur.
Trees: • Of the 60 existing trees on the site, 51 would be considered significant; of those significant trees, 27 are considered Exceptional under City of Seattle Director's Rule 16-2008. Approximately 18 trees would be removed, including approximately 5 significant trees and 8 Exceptional trees). Tree replacement is intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University's Tree Management Plan to provide a replacement at a 1:1 ratio. If a 1:1 ratio is not possible on the site, additional trees would be planted in an off-site area on campus in accordance with typical University procedures. New landscaping would also be provided and reviewed by the University's landscape architect and the University Landscape Advisory Committee.	• Similar to Alternative 1.	• Similar to Scenario 2.1.	• Of the 108 existing trees on the site, 93 would be considered significant trees; of those significant trees, 32 are considered Exceptional. Approx. 56 trees would be removed, including 28 significant trees and 17 Exceptional trees. Tree replacement would be similar to Alternative 1 to meet or exceed University and City of Seattle requirements. New landscaping would also be provided and reviewed by the University's landscape architect and the University Landscape Advisory Committee.	• 108 existing trees are located on the site, including 93 significant trees and 32 Exceptional trees. Approx. 27 existing trees would be removed, including 8 significant trees and 13 Exceptional trees. Tree replacement and landscaping would be similar to Scenario 3.1.	• The CSE II Project would not be constructed and construction-related tree removal impacts would not occur.

SUMMARY OF MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Aesthetics/Light and Glare

Mitigation Measures

The following mitigation measures are proposed for development of the *CSE II Project*.

- The proposed design and exterior materials would be intended to complement the existing surrounding campus buildings and reinforce the connection with the existing Paul G. Allen Center to create a unified CSE Complex. However, the connection to the Paul G. Allen Center would not be apparent under Alternative 3 due to the site's location to the northeast of the Paul G. Allen Center.

- All disturbed campus landscapes would be restored to the quality of work and method of installation in agreement with long term campus plans for the area.

- New landscaping and trees would be provided as part of development to enhance the aesthetic character of the site. The University of Washington would meet or exceed the City of Seattle tree replacement standards.

- Building design would consider using the least reflective glazing material, as well as shading devices (for the building), to minimize the potential glare impacts to surrounding uses.

- Exterior building lighting and pedestrian lighting would be directed downward and away from existing buildings and spaces to minimize the impacts to nearby uses.

Significant Unavoidable Adverse Impacts

Development of the *CSE II Project* under each of the alternatives would change the visual character of the sites to reflect a new multi-story academic and research facility and would intensify the level of development in the area. Under Alternative 1, development of the CSE II Project would require the removal of the More Hall Annex and views of that structure would no longer remain available. Under Alternative 2, the configuration of the CSE II Project would change the configuration and aesthetic character of Snohomish Lane to reflect a path between and beneath the CSE II Building under Scenario 2.1 or around the north and east side of the CSE II Building under Scenario 2.2, and the existing view corridor to the east along Snohomish Lane would be lost. Views of the More Hall Annex would also be obstructed from north, east and west under Alternative 2. Under Alternative 3 –

Scenario 3.1, views of Lake Washington from the University of Washington Club would be affected to reflect the CSE II Building located prominently in the view shed area.

New development under each of the alternatives would also introduce new sources of light and glare to the area, but with proposed mitigation measures, significant light and glare impacts would not be anticipated.

Historic and Cultural Resources

Mitigation Measures

The following mitigation measures are proposed for the development of the *CSE II Project* on the University of Washington campus.

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

- Potential mitigation associated with Alternative 1 could include additional documentation of the building, including additional archival photography and construction documentation per Washington State DAHP Mitigation Standards Level I (See federal register Vol. 68, No. 139, which outlines Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation). This level of documentation is reserved for properties that have State and/or National significance. HABS/HAER level documentation requires coordination with DAHP and the National Park Service Columbia Cascades System Support Office in Seattle, and is submitted to the Library of Congress.

- Additional possible mitigation includes complete recordation by LIDAR (Light Detection and Ranging), as well as incorporating interpretation of the University's Nuclear Engineering program and the construction and use of the More Hall Annex (former Nuclear Reactor Building) into the program of the *CSEII Project*.

- Potential mitigation for Alternative 1 could also include the relocation of the above-grade pavilion portion of the More Hall Annex to a new site on campus.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

- Potential mitigation associated with Alternatives 2.1 and 2.2 include compliance with the "Secretary of the Interiors' Standards and Guidelines (as Amended and Annotated)," particularly "Standards for Rehabilitation," and associated technical information and preservation briefs.

- Additional possible mitigation includes incorporating interpretation of the University's Nuclear Engineering program and the construction and use of the More Hall Annex (former Nuclear Reactor Building) into the program of the *CSE II Project*.

Alternative 3 – Development of the CSE II Project on Site 14C

- Potential mitigation associated with Alternative 3 include limiting the height of the eastern portion of the proposed building to minimize view impacts from the University of Washington Club's eastern second floor windows.

Accidental Discovery of Archaeological Resources

- In the event that archaeological deposits are inadvertently discovered during construction in any portion of the 16C and 14C sites, ground-disturbing activities should be halted immediately, and University of Washington should be notified. The University would then contact DAHP and the interested Tribes, as appropriate, and as described in the recommended inadvertent discovery plan.

Discovery of Human Remains

- Any human remains that are discovered during construction of the CSE II Project (on either Site 16C or Site 14C) will be treated with dignity and respect.
    - If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.
    - The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Significant Unavoidable Adverse Impacts

Historic Resources and Spaces

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C – Under Alternative 1, the More Hall Annex building would be demolished and permanently removed from the site and the historic features associated with the building would no longer exist on the site, resulting in an adverse impact. The portion of Snohomish Lane on the site would reflect the existing alignment and would retain the existing line-of sight character, and impacts to Snohomish Lane under Alternative 1 would not be considered adverse.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex – Under Alternative 2, Scenario 2.1, More Hall Annex would be retained on the site and would be surrounded by the proposed CSEII Building. The site integrity of the More Hall Annex would be partially degraded by the assumed new construction, and views from E Stevens Way to the More Hall Annex building would be partially obscured, which would be considered an adverse impact; this impact would be less than the irretrievable loss of the building. Additionally, Snohomish Lane would be rerouted from its original alignment, would be partially located under the CSE II building, and would not reflect the historic line-of-sight, which would be considered an adverse impact.

Under Alternative 2, Scenario 2.2, More Hall Annex would be incorporated into the new building. Although this alternative retains the More Hall Annex, the building's site integrity would be partially degraded by proposed new construction, and views from E Stevens Way to the More Hall Annex building would be partially obscured, which would be considered an adverse impact, but less than the irretrievable loss of the building. Additionally, Snohomish Lane would be rerouted from its original alignment, and would not reflect the historic line-of-sight, which would be considered an adverse impact.

Alternative 3 – Development of the CSE II Project on Site 14C – The Alternative 3 site (Site 14C) does not contain any buildings identified as eligible for historic registers and demolition of existing building on the site without mitigation would not be considered an adverse impact. Scenario 3.1 would result in partial obstruction of the view from the University Club which would be considered an adverse impact.

Cultural Resources

With implementation of the proposed mitigation measures, significant impacts to cultural resources would not be anticipated under the SEIS Alternatives.

Transportation

Mitigation Measures

The following mitigation measures would be implemented to minimize potential transportation-related impacts from the proposed *CSE II Project*.

- Construction activities would occur in compliance with applicable University of Washington and City of Seattle regulations and would include the preparation of a Construction Management Plan to control and minimize potential construction-related transportation issues.

- New bicycle parking spaces would be provided on Site 16C or Site 14C in conjunction with site development. The number of bicycle parking spaces would be consistent with University of Washington requirements.

- The proposed *CSE II Project* would fall under the provisions of the University of Washington's Transportation Management Plan (TMP), including elements such as parking pricing and the U-Pass Program to help reduce single-occupancy vehicle trips and encourage transit use, carpooling and other alternative modes of transportation.

- Under Alternatives 1 and 2, the orientation, configuration and alignment of the new Snohomish Lane through Site 16C from Stevens Way NE to Mason Road NE will continue to be developed during the design of the CSE II Project. If the University elects to align Snohomish Lane through the site with the likely location of a new Snohomish Overpass Bridge (north of the existing bridge), it is possible that there could be an impact to pedestrians and bicycles if the future alignment of the Snohomish Overpass Bridge changes or if the project is not completed in the near future due to a disconnect that could occur with Snohomish Lane at its intersection with Mason Road NE. If necessary, a striped diagonal crosswalk could be provided to mitigate this impact and connect Snohomish Lane across Mason Road NE to the existing stairs between Mason Road NE and the Burke Gilman Trail.

Significant Unavoidable Adverse Impacts

With the implementation of the mitigation measures described above, significant unavoidable adverse transportation impacts would not be anticipated.

Construction Impacts

Mitigation Measures

The following measures would be implemented to mitigate potential construction impacts from the development of the proposed CSE II Project. These mitigation measures would be applicable for Alternatives 1, 2 and 3.

Air Quality

The following measure would be implemented to mitigate potential construction-related air quality impacts from the development of the CSE II Project.

- Construction-related emissions associated with the project would comply with all applicable air quality regulations and standards, including those from the (PSCAA).
- Site development would adhere to the PSCAA regulations regarding demolition activity and fugitive dust emissions, including: wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets.
- The University and project contractor would coordinate to temporarily duct and protect air intakes of adjacent buildings to minimize the potential for the intake of fugitive dust and exhaust fumes.
- A temporary asphalt roadway would be provided through either Site 16C or 14C to provide access for construction vehicles and equipment which would reduce the amount of dust and dirt that would be generated by construction vehicles and equipment accessing the site.

Greenhouse Gas Emissions

The following measure would be implemented to mitigate potential GHG emission impacts from the development of the CSE II Project.

- Continued implementation of the University's Transportation Management Plan (TMP) would reduce vehicle trips to the campus (including the CSE II at the alternative sites), thereby reducing GHG emissions. Implementation of a Construction Management Plan would also help to control transportation issues during construction and could reduce construction-related GHG emissions.

Noise

Because of the proximity of academic and other University uses near the alternative sites, the University agrees that the mitigation of construction-related noise impacts is important and they are committed to the measures listed below. The following measures would be implemented to mitigate potential construction-related noise impacts from the development of the CSEII Project.

- Construction noise would limited to applicable noise levels per the *City of Seattle Noise Code* (SMC 25.08.425).
- Placement of materials and backing up of trucks could be done without warning beepers (with a flagger walking behind the vehicle).
- Alternative white noise backup warning systems would be installed (as allowed by Washington State construction safety regulations, WAC 296-155-605).
- Low noise portable air compressors would be used where feasible.
- Nighttime activities would not exceed allowable noise levels.
- The use of noise impact-type equipment, such as pavement breakers, pile drivers, jackhammers, sand blasting tools, and other impulse noise sources would be limited to work activity between 8 AM and 5 PM on weekdays.
- Whenever appropriate, hydraulic impacts tools with electric models would be substituted to further reduce demolition and construction-related noise.
- Loud talking, music, or other miscellaneous noise-related activities would be limited.
- Construction noise would be reduced with properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning-off idling equipment.
- Truck haul routes would be jointly developed by the UW, SDOT and DPD and approved by SDOT.

Vibration

The following measures would be implemented to mitigate potential construction-related vibration impacts from the development of the CSE II Project.

- To the extent feasible, construction activities would utilize practices that would minimize vibration, such as the use of sawcutting for concrete removal in lieu of using impact tools.
- Orientation would be provided for all construction workers to inform them of the importance of minimizing impacts to adjacent buildings, including vibration.

- Advanced notification could be provided to surrounding buildings and uses to inform them of construction activities that would cause vibration (e.g., drilling of soldier piles). Early notification would allow surrounding uses to prepare in advance of potential vibration activities.

Trees

The following measure would be implemented to mitigate potential construction-related tree impacts from the development of the CSE II Project.

- Tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and be in accordance with the University's Tree Management Plan.

Significant Unavoidable Adverse Impacts

Construction of the proposed CSE II Project under the SEIS Alternatives (Alternatives 1, 2 and 3) would result in some construction-related air quality, GHG emissions, noise, vibration, and tree impacts that would be unavoidable with the proposed project. However, with the implementation of proposed mitigation measures, construction activities would not be anticipated to result in significant impacts to surrounding uses.

CHAPTER 2

Description of Proposed Action and Alternatives

CHAPTER 2

INTRODUCTION AND DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter of the Draft Supplemental Environment Impact Statement (SEIS) provides a discussion of the planning process that was conducted in support of the proposed University of Washington Computer Science and Engineering II (CSE II) Project. This chapter provides information on the site and surrounding area, and a description of each of the alternatives for the proposed CSE II Project. In addition to the preferred alternative on Site 16C (Alternative 1), this chapter describes Alternative 2 (Development of the CSE II Project on Site 16C and Retention of all or a portion of More Hall Annex), Alternative 3 (Development of the CSE II Project on Site 14C), and Alternative 4 (No Action Alternative).

Alternative 2 includes two scenarios reflecting different approaches to building development related to More Hall Annex, and Alternative 3 includes two scenarios reflecting different building orientation and height for the CSE II Project on an alternative site. Additionally, a discussion of alternatives considered but not carried forward for environmental review in this SEIS is also provided in this chapter. A detailed description of the affected environment, environmental impacts, mitigation measures and significant unavoidable adverse impacts is provided in **Chapter 3** of this Draft SEIS.

2.1 PROJECT SUMMARY

The primary mission of the University of Washington is the preservation, advancement and dissemination of knowledge and as one of the University's fastest growing programs, the CSE Program contributes significantly to the University's ability to fulfill its primary mission. The CSE Program includes two undergraduate programs (Computer Science in the College of Arts and Sciences, and Computer Engineering in the College of Engineering) and a graduate program. The CSE Program currently has approximately 600 undergraduate students, 375 graduate students, as well as 50 faculty members and 50 staff members (*University of Washington, 2015*).

Currently, the CSE Program is primarily housed in the six-story Paul G. Allen Center for Computer Science and Engineering which was constructed in 2003 and contains approximately 160,000 gross square feet of building area. The CSE Program has grown significantly at every level (undergraduate students, graduate students, faculty, staff, etc.) to meet the high demand in the region for CSE graduates and research. Due to the success of the CSE program's educational and research initiatives, the amount of space in the Paul G. Allen Center is substantially short of the current program needs and the deficiency becomes even greater when taking into account the consistent rate of program growth. The proposed CSE II Project would provide additional academic and research space to meet the current and future needs of the CSE Program while maintaining connections and allowing continued collaboration with the existing CSE Program within the Paul G. Allen Center. The preferred location of the CSE II Project, across Stevens Way NE from the Paul G. Allen Center, would allow for the creation of a unified CSE complex and allow for collaboration between students, faculty and staff within the two buildings.

The preferred site for the proposed CSE II Project is identified in the University of Washington Seattle Campus Master Plan (*CMP-Seattle 2003*) as Development Site 16C. The Project would include four stories and approximately 134,000 square feet of academic and research uses, and would provide space for classrooms, offices, research areas, communal spaces, administrative areas, and support space.

2.2 BACKGROUND

University of Washington Campus

The University of Washington was founded in 1861 as a public research and education institution and currently has campuses in Seattle, Tacoma, and Bothell, as well as research stations across the state. The University of Washington conducts master planning to guide future development on all campuses. In January 2003, the University of Washington adopted the Seattle Campus Master Plan (*CMP-Seattle 2003*), a conceptual plan for the Seattle Campus that establishes guidelines and policies for up to approximately three million square feet of building area for academic, housing, research, education and support uses. This plan was approved by the University of Washington Board of Regents, and the City of Seattle. All new development on the University of Washington Seattle Campus considers the guidelines and requirements that are identified in the *CMP-Seattle 2003*.

For planning purposes, the *CMP-Seattle 2003* divided the Seattle Campus into five different areas, including the Central, West, South, Southwest, and East Sector. Each area is characterized by varying structures and uses, and each area follows a list of objectives that represent ideas for future development. The proposed CSE II Project sites (CMP-Seattle Site 16C and 14C) are located in the Central Campus Sector which is generally bounded by NE 45th Street to the north, Montlake Boulevard to the east, NE Pacific Street to the south, and 15th Avenue NE to the west. The Central Campus contains the Original Core of the University of Washington campus, and the *CMP-Seattle 2003* identified conservation of this core as a primary goal.

The *CMP-Seattle 2003* determines the amount of new development allowed in each sector during the planning period covered by the document. The *CMP-Seattle 2003* allows approximately 1,590,000 gross square feet (GSF) of new development is allowed within the Central Campus. The *CMP-Seattle 2003* further allows that up to an additional 20 percent of GSF of development is allowed in each sector without an amendment to the *CMP-Seattle 2003*; thus a total of 1,908,000 GSF of new development is permitted in the Central

Campus. There is adequate development square footage in the Central Campus to accommodate the proposed CSE II Project.

The *CMP-Seattle 2003* also contains guidelines for the development of the five campus sector areas, as well as guidelines for specific individual development sites on campus. The preferred CSE II Project site is located in the Central Campus on Development Site 16C, within the Surrounding Central Perimeter area outside of the Original Core. Specific objectives for the Surrounding Central Campus Perimeter sector include the following:

- Preserve and enhance important open spaces;
- Use new development to strengthen campus form by clearly defining open spaces and circulation routes;
- Improve connections to University-related uses north of 45th, west of 15th, south across Pacific, and east across Montlake Boulevard;
- Create well-designed connections between the University and the larger community; and,
- Create more inviting campus edges and entrances.

The *CMP-Seattle 2003* identifies approximately 70 potential development sites throughout the campus, and includes guidelines and policies for development on these sites. The preferred CSE II Project site is identified as Development Site 16C, which is located in the southeastern portion of the Central Campus Sector within the Surrounding Central Perimeter areas. Development Site 16C is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west. The project site currently contains the More Hall Annex, walkways associated with Snohomish Lane, University Parking Areas C15 and C12, open space area, and Plant Operations Annex Building #7. The site is also generally bisected by Jefferson Road NE, a north/south roadway.

The *CMP-Seattle 2003* identifies Development Site 16C as a potential site for academic uses, with approximately 100,000 square feet of potential building development[1] and a maximum allowable building height of 65 feet (approximately five stories). The potential for the demolition of up to approximately 6,677 square feet of existing building area (More Hall Annex) is also identified for the site.

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 16C include the following:

- Improve the courtyard along Stevens Way NE;
- Develop the Snohomish Lane area as a major pedestrian access between the Central and East Campuses;

[1] The CMP-Seattle 2003 indicates the potential for a building on Site 16C to be an underground structure.

- Maintain views to the east; and,
- Future development could have the potential to include an underground building or portions of an underground building.

Under Alternative 3, the CSE II Project would be located on *CMP-Seattle 2003* Development Site 14C, which is generally bounded by the University of Washington Club Building (formerly known as the University of Washington Faculty Club) to the north, Mason Road NE to the east, University Parking Area C23 and the University Power Plant to the south, and Jefferson Road NE and Stevens Way NE to the west. Development Site 14C currently contains the University Facilities Building, the University Facilities Administration Building, and the Plant Operation Annex Buildings, as well as pedestrian walkways. The *CMP-Seattle 2003* identifies the site for potential academic or transportation uses with approximately 360,000 square feet of potential above-grade building development and a maximum allowable building height of 105 feet (approximately eight stories). The potential for the demolition of up to approximately 44,756 square feet of existing building area is also identified for the site.

Specific *CMP-Seattle 2003* policies and guidelines that relate to Development Site 14C include the following:

- Take advantage of views;
- Construct a new pedestrian bridge to the East Campus that connects to a walkway to the north of the IMA;
- Provide a new east-west walkway through the site;
- Provide a north-south walkway through the site; and,
- Develop a courtyard that links pedestrian pathways.

University of Washington Computer Science and Engineering (CSE) Program

The CSE Program was originally established at the University of Washington in 1967 as a graduate program, and Computer Science was added as an undergraduate program in 1975. A second undergraduate program in Computer Engineering was added in 1989, as well as a Professional Master's Program 1996 and a combined Bachelor's/Master's Program in 2008. Since its inception, the program consistently ranks among the top 10 programs in the country and faculty members have won numerous awards for excellence in their field.

Currently, the CSE Program has approximately 600 undergraduate students, 375 graduate students, as well as 50 faculty members and 50 staff members. In 2014, the CSE Program awarded 205 Bachelor's degrees, 84 Master's degrees, and 28 Doctoral degrees, and educated approximately 4,500 students in introductory courses. Admission into the CSE Program is highly competitive with the demand far exceeding the capacity. Undergraduate students are accepted to the program on a competitive basis based upon the completion of prerequisite courses. The CSE Graduate Program is also highly competitive and offers admission to approximately 7.5 percent of those students that apply each year.

The CSE Program is primarily housed in the Paul G. Allen Center for Computer Science and Engineering which was constructed in 2003 and is located immediately west (across Stevens Way NE) of the proposed CSE II Project site (Development Site 16C). The six-story Paul G. Allen Center contains approximately 160,000 gross square feet of building area and includes offices, research areas, computer labs and conference rooms.

2.3 EXISTING SITE CONDITIONS

Existing Alternative 1 and 2 Site (Development Site 16C)

General Conditions

The approximately 2.2-acre (97,500-square foot) Alternatives 1 and 2 site (CMP-Seattle 2003 Development Site 16C) is located in the Central Campus of the University of Washington and is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west (see **Figure 2-1** for map of the University of Washington campus).

The site generally slopes from west to the east with a grade change of approximately 30 feet from Stevens Way NE to Jefferson Road NE and an additional 10 feet of grade change between Jefferson Road NE and Mason Road NE.

Existing lawn areas are located along the western portion of the site, adjacent to Stevens Way NE. These areas can serve as informal gathering areas for students and staff in the vicinity of the site.

Vehicular access to the site is provided from Stevens Way NE (to the west), Jefferson Road NE (bisecting the site), and Mason Road NE (to the east). Two existing parking areas are located on the site (University Parking Area C12 and C15) with both accessible from Jefferson Road NE. On-street, short-term parking is also provided on the western edge of the site adjacent to Stevens Way NE. Snohomish Lane is located along the northern edge of the site and provides pedestrian and bicycle access through the site between Stevens Way NE and Jefferson Road NE; this pedestrian walkway also provides a connection between the Central Campus to the west and the Burke Gilman Trail and Hec Edmundson Bridge to the east of the site. See **Figure 2-2** for a map of the existing Alternatives 1 and 2 site survey.

Source: University of Washington, 2014.

EA Engineering, Science, and Technology, Inc.

Figure 2-1
Campus Map

Source: LMN, 2015.

Figure 2-2

Site 16C Survey

EA Engineering, Science, and Technology, Inc.

Vegetation on the site primarily consists of the aforementioned lawn areas, as well as existing mature trees and shrubs along the north and south edges of the site and surrounding the More Hall Annex Building. A total of 60 trees are located on the site, including 51 trees that meet the City of Seattle's definition of significant trees[2]. Of these 51 significant trees, 27 trees would meet the City of Seattle's designation of Exceptional Trees[3].

More Hall Annex

Site 16C currently contains the More Hall Annex building. The More Hall Annex was constructed in 1961 to serve the Nuclear Engineering Program and was designed specifically for nuclear reactor purposes. The building exhibits characteristics that are substantially different from the academic and office buildings on the campus. The two-story, approximately 6,700-square foot reinforced concrete structure consists of an underground main floor (spanned by four-foot wide concrete slabs resting on ten-inch thick poured beam walls) and a second floor penthouse with windows to allow views down to the reactor floor; the penthouse is the only portion visible from Stevens Way NE. A broad concrete deck surrounding the upper level penthouse was intended to allow for viewing the operating reactor.

As interest in nuclear power research declined, enrollment in the program decreased and the Nuclear Engineering Program was officially dissolved in 1992. The decommissioning process was initiated in 1995 and this process included the removal of the nuclear reactor, porous interior finishes, and wood-framed partitions. In August 2007, the US Nuclear Regulatory Commission (NRC) determined that the decommission was complete and that the facility and site were suitable for unrestricted use. In July 2009, the More Hall Annex was official listed on the Washington Heritage Register (WHR) and the National Register of Historic Places (NRHP). Refer to **Section 3.2, Historic and Cultural Resources,** for a detailed discussion on More Hall Annex.

Over the last approximately eight years following decommissioning, the More Hall Annex has been available for reuse by University departments and support services, and the suitability of the building for reuse has been contemplated. However, because the More Hall Annex was designed specifically for nuclear reactor operations and nuclear education purposes, and exhibits characteristics that are substantially different from academic and office buildings on campus (including a four-foot wide concrete slab, ten-inch thick concrete walls, a below-grade main level with an open, upper penthouse above), the building has not been found to be suitable for other uses and the building has remained vacant since the reactor was removed.

Additionally, the suitability of relocating all or a portion of More Hall Annex to a suitable nearby site has been explored as part of the *More Hall Annex Feasibility Study* (Schacht

[2] Significant trees are defined as any tree that is six inches in diameter or greater at standard height (4.5 feet above average grade).
[3] City of Seattle Department of Planning and Development – Director's Rule 16-2008.

Asiani Architects, 2015). However, relocation would only be feasible for the above-grade pavilion portion of the building and the below-grade reactor area could not feasibly be relocated. For relocation, a new site would need to identified on-campus and structural building code upgrades (new shearwalls, ADA accessibility, energy code upgrades, etc.) and mechanical/electrical systems upgrades would be required. In addition, if relocated to another site on campus, the building design characteristics could continue to limit the potential for a suitable use; such partial relocation also would affect the historic character of the building.

Existing Site Utilities

Stormwater

Existing stormwater lines are located to the east and west of the site, below Mason Road and Stevens Way. Additional water and sewer lines also run through the central portion of the site and are located below Jefferson Road.

Water and Sewer Service

Existing water and sewer lines are located to the east and west of the site, below Mason Road and Stevens Way. These utilities include eight-inch water service lines and six-inch and 12-inch sewer service lines. Additional water and sewer lines also run through the central portion of the site and are located below Jefferson Road.

Electrical/Communications

Existing electrical and communications lines are located within the existing campus utility tunnel which runs through the central portion of the site in an east/west direction and connects with existing tunnels below Stevens Way and Mason Road. The campus utility tunnel provides electrical and communications connections for the majority of the campus.

Existing Oil Tank

An approximately 100-foot diameter oil tank is buried below Jefferson Road (immediately southwest of the University Power Plant) and is located along the northern edge of the site. The tank provides backup heating oil for the University power plant and fuel for the emergency generators. An access hatch for the tank is located approximately within the center of Jefferson Road and overhead crane access to the hatch must be maintained for potential future removal and periodic maintenance of the tank. An associated oil containment tank is located to the south of the main oil tank and a large spill containment zone is provided on top of the 100-foot diameter oil tank as required by existing codes. The existing oil tank is considered essential to campus operations and there is no feasible way to relocate the tank.

Surrounding Area

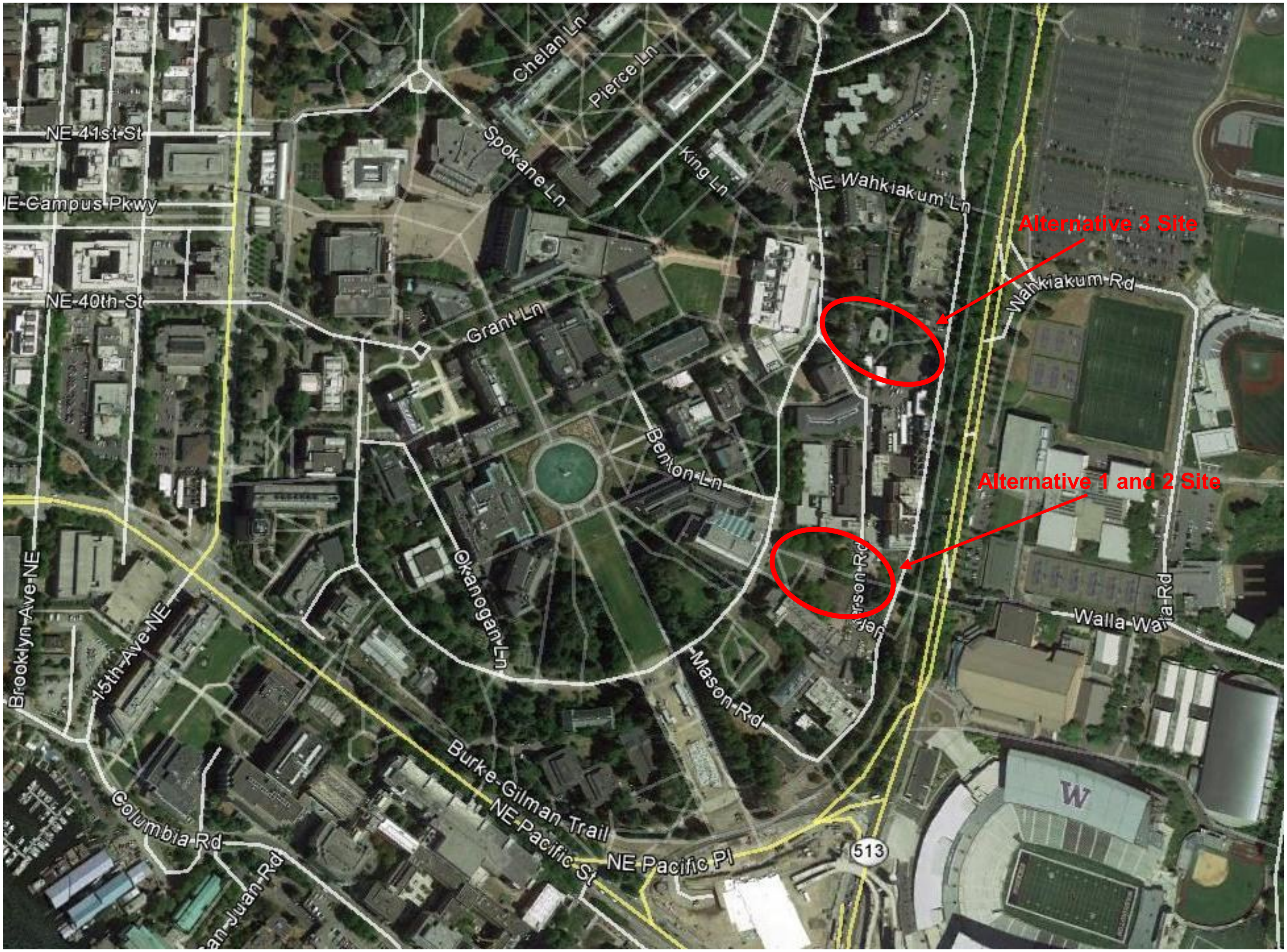
The Alternative 1 and 2 site (Development Site 16C) is located in the Central Campus area of the University of Washington campus, which is characterized by the historic core of the University and its surrounding perimeter with a variety of uses including academic, student housing, and University support uses. Within the Original Core there are a number of significant buildings and open spaces as identified in the *CMP-Seattle 2003*, including the Liberal Arts Quadrangle, Denny Yard, Memorial Way, Rainier Vista, Hub Yard, Parrington Lawn, and Central Plaza (see **Figure 2-3** for an aerial map of the Alternatives 1 and 2 site and surrounding area).The area to the north of the Alternative 1 and 2 site is primarily comprised of the two-story (plus one below-grade level) Mechanical Engineering Building (Department of Mechanical Engineering and Department of Industrial Engineering), the three- to five-story Engineering Annex Building (Department of Mechanical Engineering and the College of Engineering Office of the Dean), and the University's Central Power Plant. Further to the north are a number of other academic buildings (i.e., Loew Hall and the Engineering Library Building), as well as the Husky Union Building (HUB) and University Facilities Buildings.

To the east of the site is Mason Road NE, an internal roadway along the eastern edge of the Central Campus which connects Stevens Way NE with Pend Oreille Road NE. Further to the east is the Burke Gilman Trail which provides a connection to the University's East Campus area, as well as a regional trail connection between the City of Seattle and the Cities of Kenmore and Bothell (to the northeast).

The area to the immediate south of the Alternative 1 and 2 site is primarily comprised of the three- to four-story More Hall Building which houses the University's Department of Civil and Environmental Engineering Programs. Further to the south are the Roberts Hall (Department of Materials Science and Engineering), Wilcox Hall (Department of Civil and Environmental Engineering, Department of Mechanical Engineering, and Department of Materials Science and Engineering), the Wilson Ceramics Lab (Department of Civil and Environmental Engineering), and Mueller Hall (located underground and housing the Department of Materials Science and Engineering).

To the west of the site, beyond Stevens Way NE, is the six-story Paul G. Allen Center for Computer Science and Engineering which is the current home of the Computer Science and Engineering Program. Further to the west are the five-story Electrical Engineering Building (Department of Electrical Engineering), the Columns and Sylvan Theater area (a vegetated open space area), Drumheller Fountain, and the Rainier Vista (vegetated open space area and view corridor); the Columns and Sylvan Theater, Drumheller Fountain and Rainier Vista are all identified as Unique and Significant Landscapes in the *CMP-Seattle 2003*.

University of Washington Computer Science and Engineering II Project
Supplemental Environmental Impact Statement



Source: Google Earth and EA Engineering, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-3
Aerial Map

Existing Alternative 3 Site (Development Site 14C)

The approximately 1.9-acre (83,500-square foot) Alternative 3 site (CMP-Seattle 2003 Development Site 14C) is also located in the Central Campus of the University of Washington and is generally bounded by the University of Washington Club Building and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west (see **Figure 2-1** for map of the University of Washington campus).

The site slopes down from west to east with a grade change of approximately 40 feet from the west end of the site (adjacent to Stevens Way NE) to the east end of the site (adjacent to Mason Road NE).

The Alternative 3 site currently contains several University buildings, including the two-story the University Facilities Building, the two-story University Facilities Services Administration Building, and the two-story University Facilities Plant Operations Annex Buildings (Buildings 1 through 6). These existing on-site buildings primarily house several functions of the University Facilities offices, including Campus Engineering, Computer Services, and Human Resources, as well as the University's Capital Projects Office.

Vehicular access to the site is provided from Jefferson Road NE via Stevens Way NE. Limited vehicular parking (approximately two to three spaces) is available to the south of the existing University Facilities Services Administration Building and is restricted to loading/unloading and temporary parking only; University Parking Area C23 is also located on the southern portion of the site and contains approximately 21 parking spaces. Pedestrian pathways are also located on the site to provide connections through the site area to the north, south, east and west of the Alternative 3 site. See **Figure 2-3** for an aerial map of the Alternative 3 site.

A total of 108 trees are located on the site, including 93 trees that meet the City of Seattle's definition of significant trees. Of these 93 significant trees, 32 trees meet the City of Seattle's designation of Exceptional Trees.

Existing Site Utilities

Stormwater

Existing stormwater lines are located to the east and west of the site, below Mason Road and Stevens Way. Additional water and sewer lines also run through the central portion of the site and are located below Jefferson Road.

Water and Sewer Service

Existing water and sewer lines are located to the west of the site, below Stevens Way and Jefferson Road. Additional water and sewer lines also run to the east of the site and are located below Mason Road.

Electrical/Communications

Existing electrical and communications lines are located within the existing campus utility tunnel which runs through the central portion of the site in a northwest-southeast direction. The campus utility tunnel provides electrical and communications connections for the majority of the campus.

Surrounding Area

The area to the north of the Alternative 3 site is primarily comprised of the University of Washington Club Building and Fluke Hall. The University of Washington Club Building is a two-story building that serves as a social club for University faculty and staff. The building was listed on the National Register of Historic Places and the Washington Heritage Register in 2010 and includes views to the east and south toward Union Bay and Lake Washington. The two-story Fluke Hall contains the Department of Mechanical Engineering and the Microfabrication Lab; University Parking Area N24 is also located adjacent to Fluke Hall. Further to the north of the Alternative 3 site is the Hall Health Building (medical outpatient clinic for students and staff), Padelford Hall (academic offices), and the Padelford Parking Garage.

To the east of the site is Mason Road NE, an internal University roadway that provides vehicular circulation along the eastern edge of the Central Campus between Stevens Way NE and Pend Oreille Road NE. Further to the east is the Burke Gilman Trail, Montlake Boulevard NE and the University’s East Campus area (Intermural Activities Building and Fields, University Parking Area E1 and Chaffey Field (baseball)).

The area to the south of the Alternative 3 site is comprised of Loew Hall and the Central Power Plant. Further to the south are the Mechanical Engineering Building, the Engineering Annex Building and the More Hall Annex (Development Site 16C – Alternatives 1 and 2).

To the west of the site is the Engineering Library Building and Stevens Way NE. Further to the west, beyond Stevens Way NE is the HUB and the HUB Yard (vegetated open space area). The three-story HUB provides space for student services, activities and organizations, as well as dining and food services facilities for students, staff and visitors.

2.4 PROJECT GOALS AND OBJECTIVES

As indicated earlier in this chapter, the University of Washington CSE program space is substantially short of the program needs and additional academic and research space is required to meet current and future demands for the program. The University of Washington identified the following goals and objectives for the proposed University of Washington CSE II Project. These goals and objectives were developed as part of the pre-design planning process for the CSE II Project by the University of Washington and the CSE Department.

- **Create a Welcoming Environment**. Provide a warm, welcoming and people-centered environment in which a diverse student, faculty and staff population will want to learn and work.

- **Create a Unified CSE Complex.** The CSE II architecture and site design should engage the Allen Center to clearly establish a unified research and education complex. CSE II should be an extension of the Paul G. Allen Center—programmatically and perceptually. Spaces in CSE II should generally complement, rather than duplicate, spaces in the Paul G. Allen Center. The needs of the department will be met by the combined spaces in both buildings and occupants should feel comfortable in and live in both buildings. Adjacency of the new structure is a necessity in meeting this goal, and a physical connection between the two buildings (i.e., a tunnel) is highly desired and should be implemented as funding becomes available. However, with or without such a connection, the design should support complementary functionality and easy movement between the two buildings.

- **Provide Qualitative Parity.** While the design and finishes need not be the same as the Allen Center, the architecture should be of equal quality and desirability. Neither building should be preferable over the other and the two buildings should be equal in terms of size, function, natural light, etc.

- **Foster Collaboration Among Faculty and Staff.** The building should facilitate teaching, learning, and research. It should promote collaboration and serendipitous interactions across faculty, students and staff and the entire CSE community.

- **Enhance the Sense of Community for CSE Undergrads.** Undergraduate spaces should be desirable and cultivate a feeling of belonging for the CSE undergraduate community. Classrooms should provide an intimate environment for teachers to interact with students.

- **Provide Flexible Instructional and Research Spaces**. Research labs, collaboration spaces, and classrooms should be flexible and modular to fill a variety of needs, as well as adapt to program changes over time. All spaces should provide a comfortable environment for their occupants in each configuration.

- **Maximize Natural Daylight.** The building should be designed to maximize natural daylight in all occupied spaces, with operable windows for natural ventilation where appropriate.

- **Create Multiple Secure Zones**. The building should be designed to promote independent security zones with access-control in accordance with programmatic organization.

- **Achieve a Cost Effective Project**. The project's design should be cost-conscious and cost-saving alternatives should be rigorously explored to achieve the optimal value for the financial investment.

- **Enhance Campus Connections & Landscape.** The building should be approachable from all sides and enhance existing campus connections while making pedestrian routes more universally accessible. The building should provide safe, secure bicycle storage within and outside the building. Landscaping should complement the surrounding campus environment and provide a natural setting for the site.

- **Maximize View Opportunities.** The CSE II building and public spaces in and around the building should consider views from adjacent facilities (e.g., More Hall, Mechanical Engineering Building, and Paul G. Allen Center) toward Lake Washington and the Cascade mountain range. The height and orientation of the building should seek to enhance views from campus landscapes and adjacent buildings.

2.5 SEIS ELEMENTS OF THE ENVIRONMENT AND ALTERNATIVES METHODOLOGY SUMMARY

SEIS Elements of the Environment

The University of Washington issued a *Determination of Significance and Request for Comments on the Scope of the SEIS* on February 26, 2015, which preliminarily identified the following elements of the environment for analysis in the SEIS: traffic (construction, operation, pedestrian and bicycle), construction, and historic preservation. Comments on the SEIS scope were accepted until March 18, 2015 and no comments were received during the scoping period that would necessitate expanding the scope of the SEIS analysis; however, subsequent to the issuance of the Determination of Significance, the University determined that an aesthetics/light and glare analysis would also be included in the SEIS.

Selection of SEIS Alternatives

Planning for the CSE II Project was conducted by the College of Computer Science and Engineering, the Office of the University Architect, the University Capitol Projects Office, and the University Facility Services Office. This process included the identification of program needs and goals (as listed earlier in this chapter) and identification of a preferred site. This review of alternative sites is summarized in the *Fall 2014 Computer Science and Engineering II Feasibility Study* and the *Fall 2014 Site Identification Report*.

As indicated above, in fall 2014 the University of Washington (Office of the University Architect) conducted a site identification process for a second CSE building. Twenty-five development sites in the Central Campus identified in the 2003 Campus Master Plan were evaluated. Eleven of these sites were deemed unavailable leaving fourteen sites to be further evaluated against a set of criteria which included connectivity and adjacency to the Paul Allen Center, and ability of the site to accommodate program needs. Of the sites evaluated, based on criteria score, Site 16C was identified as the most suitable, with Site 14C identified as the second most suitable site.

In order to conduct a comprehensive environmental review and provide a useful tool for the decision-making process, a range of SEIS Alternatives are analyzed in this Draft SEIS that include optional design scenarios and an alternative site. The alternatives incorporate various assumptions regarding the building orientation, building height and configuration, particularly as the building would relate to More Hall Annex and the University Club, designated historic structures on Site 16C and 14C, respectively.

To determine if alternative building scenarios could feasibly achieve project objectives at a lower environmental cost (WAC 197-11-440(5)), six alternative design scenarios for Site 16C and three alternative design scenario for site 14C were explored. Of the nine alternative design scenarios explored, five alternative scenarios were identified for inclusion in this Draft SEIS (three for Site 16C under Alternatives 1 and 2, and two for Site 14C under Alternative 3, as described later in this chapter).

The alternative design scenarios that were considered but not carried forward in this SEIS are briefly summarized below.

Alternatives for Site 16C Considered but Not Carried Forward

- *Development of the CSE II Building and Integration of the More Hall Annex Concrete Frame and South Façade* – This considered alternative would retain the More Hall Annex concrete frame and south façade and incorporate those elements into the new CSE II Building. The concrete frame would be retained as an interior element within the CSE II Building and the south façade would be incorporated into the CSE II Building façade and would be visible from the areas to the south. This alternative was not carried forward for further review due to the fact that it does not preserve the historic form, integrity or distinctive features of the More Hall Annex, eliminates the spatial experience of the Annex with the removal of the basement reactor, and adds substantial cost and construction issues to incorporate the structural elements.

- *Development of the CSE II Building to Envelope the More Hall Annex* – This considered alternative would develop the CSE II Building over the top of the More Hall Annex, as well as on the north, west and east sides of the Annex. The alternative was not carried forward for further review due to the inability to meet the CSE II program requirements and would not retain the historic character of the More Hall Annex.(Note that this alternative considered but not carried forward included building over the top of the Annex, where Alternative 2 Scenario 2.1 analyzed in this SEIS does not assume building over the top of the Annex.)
- *Development of the CSE II Building to be contained between Stevens Way and More Hall Annex* – This considered alternative would develop the CSE II Building between Stevens Way and the west side of More Hall Annex. Given necessary setbacks to existing buildings and maintaining campus pathways, the maximum available footprint of this alternative would be limited to approximately 9,000 sf. To meet the program with this footprint would require a 15 story CSE II Building which would exceed the allowable height limit and would not meet operational goals.

Alternatives for Site 14C Considered but Not Carried Forward

- *Development of an east-west oriented high-rise CSE II Building* – This alternative included development of small footprint seven-story structure with an east-west orientation on Site 14C. This alternative was not carried forward for review in the SEIS due to impacts on views from the University of Washington Club and HUB, as well as issues associated with construction of the building on steep grades within the east portion of the site.

2.6 PROPOSED ACTION AND ALTERNATIVES

The proposed action for the project is the development of a new computer science and engineering building that meets the needs, goals and objectives of the Department of Computer Science and Engineering. For the purposes of environmental review, four alternatives for the Proposed Action are analyzed in this Draft SEIS, including Alternative 1 – Preferred Alternative: Development on Site 16C; Alternative 2 – Development on Site 16C with the retention of the More Hall Annex under two design scenarios; Alternative 3 – Development on Site 14C under two design scenarios; and, Alternative 4 – No Action Alternative. The following provides further details on SEIS Alternatives 1, 2, 3 and 4 for the CSE II Project.

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

Overview

The Computer Science and Engineering (CSE) Program is one of the University's fastest growing and popular undergraduate degree programs and contributes significantly to the University's ability to fulfill its primary mission. Currently, the CSE Program is housed in the Paul G. Allen Center for Computer Science and Engineering; however, due to the success of the CSE program's educational and research initiatives, the amount of space in the Paul G. Allen Center is substantially short of the current program needs and the deficiency becomes even greater when taking into account the consistent rate of program growth. The CSE II Project under Alternative 1 would provide additional academic and research space to meet the current and future needs of the CSE Program in a location that would allow for a unified CSE Program Complex and continued collaboration between faculty, staff and students.

Under Alternative 1, the proposed CSE II Project would be located on Development Site 16C and development of the project would include the removal of the existing More Hall Annex Building. The proposed four and a half-story building would contain approximately 134,000 gross square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, administrative areas, and student/faculty support spaces. Of the approximately 134,000 gross square feet of building area, approximately 109,250 square feet would be considered above-ground space and approximately 24,750 square feet would be considered below-ground space.

Location

Under Alternative 1, the proposed project would be located on Development Site 16C which is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west. The building would be directly across Stevens Way from the Paul G. Allen Center and could potentially include a tunnel connection[4] between the existing Paul G. Allen Center and the proposed buildings (see **Figures 2-1** and **2-3** for maps of the site location and vicinity).

Design Concept

The CSE II Project under Alternative 1 is designed to accommodate the specific goals and objectives of the CSE Program and allow flexibility for the existing and future needs of the program. The proposed design of the building would create new, state of the art academic space, as well as new, modern research and instructional areas intended to allow the

[4] Although not currently in the project budget for the CSE II Project, a tunnel connection to the Paul G. Allen Center is still considered to be highly desirable by the CSE Program. If funds become available the tunnel connection will be considered for the project.

Program to recruit top-notch faculty and to fulfill the undergraduate student demand. In addition, the site design and location of the CSE II Building under Alternative 1 is intended to create a unified CSE Complex with the adjacent Paul G. Allen Center and promote collaboration between the existing CSE Program spaces in the Paul G. Allen Center and the proposed CSE II Project. The design under Alternative 1 would also maintain pedestrian circulation through the site via an enhanced Snohomish Lane pathway to preserve and enhance the connection between the Central Campus and areas to the east (see **Figure 2-4** for a site plan of the proposed project).

The design of the proposed building under Alternative 1 includes four stories (including one basement level) and approximately 134,000 gross square feet of building space[5]. The proposed building height would be approximately 63 feet at its highest point, which would be below the 65-foot height limit established for the site under the *CMP-Seattle 2003*. The new building would include classrooms, research labs, communal spaces, offices, administrative areas, and student and faculty support space. The building would support approximately 265 new staff, faculty and graduate students; classroom and computer lab areas would also provide 785 seats for student use. **Table 2-1** provides a summary of the proposed building uses.

TABLE 2-1
CSE II BUILDING SUMMARY

Proposed CSE II Building	Gross Square Footage (GSF)
Classrooms	13,060
Research Labs	27,460
Communal Space	10,690
Support Space	1,110
Offices	20,180
Administrative Areas	3,610
Non-Assignable Space	57,600
Total Building Area	**133,710**

Source: LMN, 2015.

[5] The basement level of the building would contain approximately 24,750 square feet and pursuant the *CMP-Seattle 2003*, this below-grade area would not count against the allowed development total for the Central Campus.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-4

Site Plan—Alternative 1

The Basement level would include a partial basement with space for a lecture hall, research space, classrooms, shop/support space, a loading dock (accessed from Jefferson Road NE), and building operations space. A lecture hall would be provided along the north portion of the basement with an adjacent lobby area. High bay research space would be located in the southeast corner of the level. The loading dock and shop/support space would also be located along the southern portion of the basement. Mechanical space, a machine room and restrooms would be provide in the western portion of the level; this area would be separated from the other basement uses to allow for the continued access to Jefferson Road through the site (see **Figure 2-5** for a floor plan of the Basement level).

Level 1 would be located off of Stevens Way NE and include undergraduate workroom, commons areas, and administration space. A coffee shop would be provided along the west side and would be visible and accessible from Snohomish Lane and Stevens Way NE. The primary building entry would be located in the northwest corner near the coffee shop and would be accessible from Snohomish Lane and the outdoor plaza adjacent to Stevens Way NE. The enhanced Snohomish Lane would consist of a stepped, landscaped path that would continue to provide connections between Central Campus and areas to the east (see the pedestrian circulation discussion below). See **Figure 2-6** for the floor plan of Level 1.

Level 2 of the CSE II Building would contain offices (staff and graduate students) and research spaces interspersed along the perimeter of the north and south edges of the level. Support spaces and breakout/conference areas are clustered along the central circulation spine. The eastern end of Level 2 contains a breakroom space and a stairway area would connect the space to Level 3 above. Portions of the central circulation area of Level 2 would be open to floors above and below with four interspersed hallway connections to link the east and west portions of the level (see **Figure 2-7** for the floor plan for Level 2).

Level 3 of the CSE II Building would include a similar floor configuration as Level 2; however, there is no breakroom on this level. A stair and floor opening at the east portion of the level would connect Level 3 to the breakroom space below (see **Figure 2-8** for the floor plan for Level 3).

Exterior Building Design

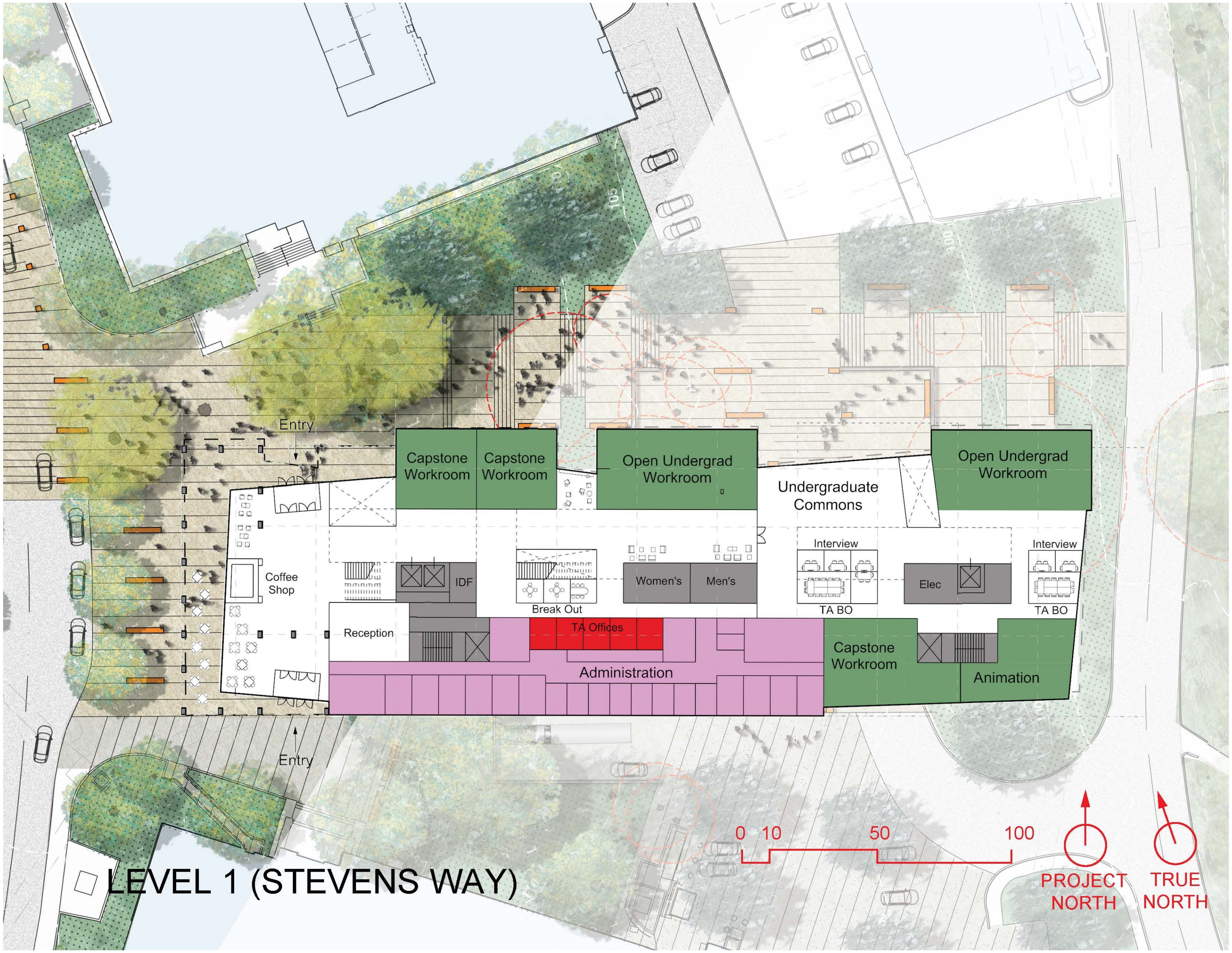
The building's massing and exterior materials are designed to reinforce the relationship between the Allen Center and CSE II, and to remain compatible with other nearby structures (e.g., height and scale, building materials, building orientation, etc.).

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-5

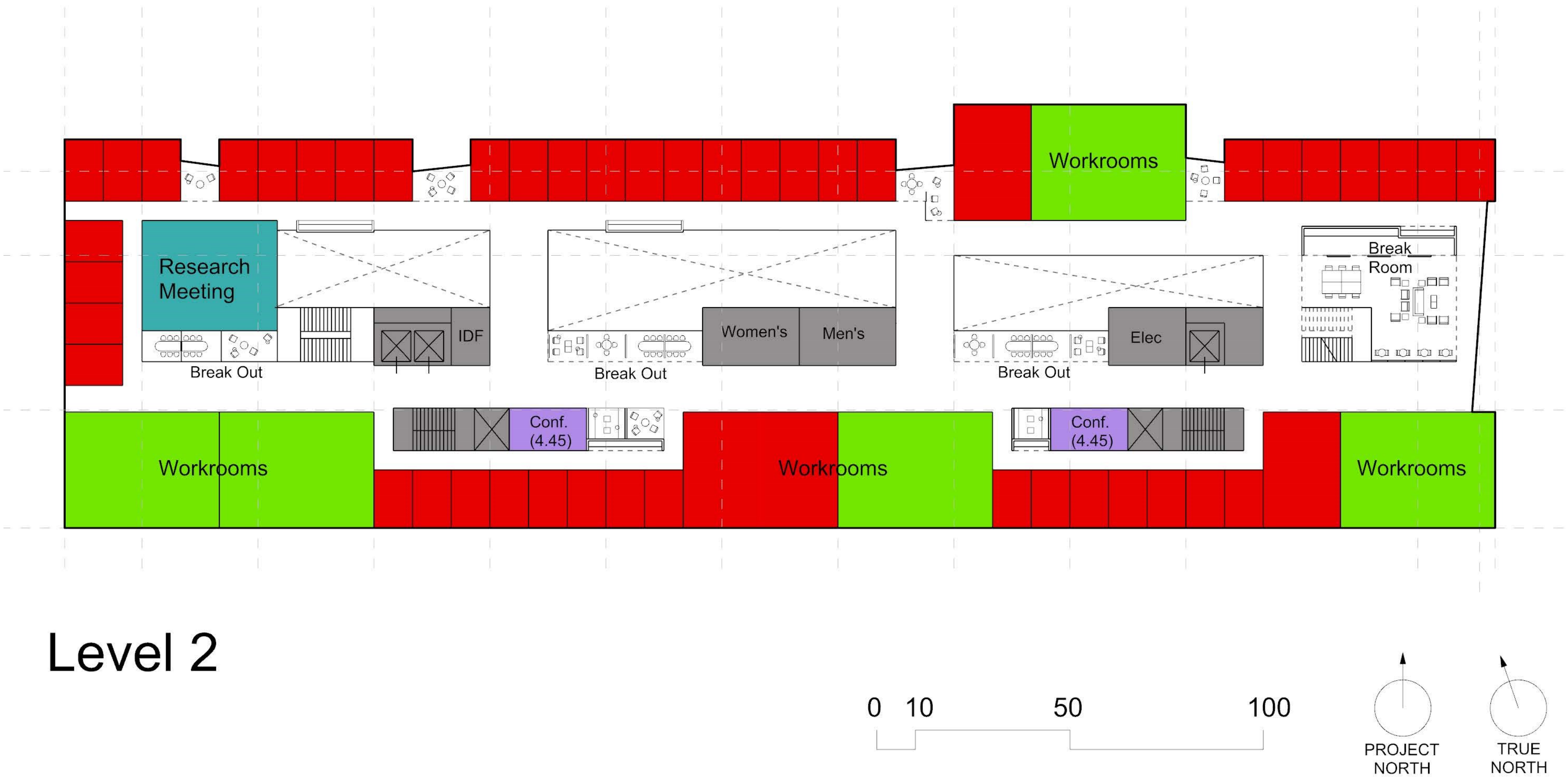
Level 0 Plan—Alternative 1



Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-6
Level 1 Plan—Alternative 1

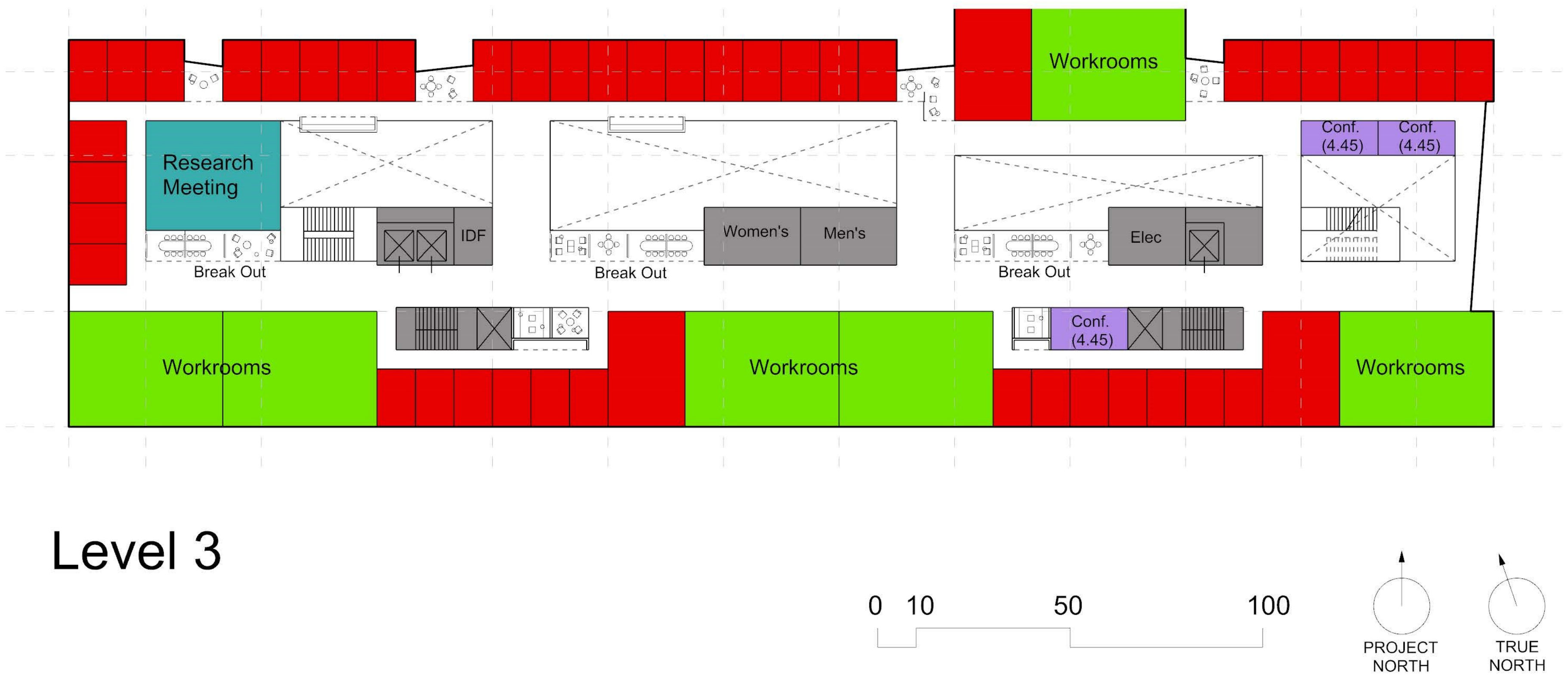


Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-7

Level 2 Plan—Alternative 1



Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-8
Level 3 Floor Plan—Alternative 1

The dominant material in this location on campus is brick. The west and south portion of the building forms a conceptual “L” shaped mass which reflects the brick and proportion of openings in the Allen Center, reinforcing the pairing of the two buildings. The portion of the building facing Snohomish Lane is designed to reinforce the connection from the interior of the building to the activity on the site. The breakdown of the massing along this edge is reflective of the program elements inside the building such as the coffee shop, undergraduate commons, and workrooms. This façade is expressed in a mix of glass and opaque paneling (see **Figure 2-9** building renderings and **Figure 2-10** for building elevations).

Sustainable Design Features

The design of the proposed CSE II Building under Alternative 1 is intended to meet or exceed the University of Washington’s requirement of Leadership in Energy and Environmental Design (LEED) Silver. Sustainable design features would be incorporated into the CSE II Building and would include energy efficient HVAC systems, natural ventilation, low-flow plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope. In addition to the sustainable features within the building, the site design for the CSE II Project would maximize the opportunity to alleviate pressure on the existing stormwater infrastructure through the incorporation of pervious paving and landscaping. Existing trees would also be maintained to the extent feasible and areas of new landscaping would incorporate species that are well suited to the local environmental conditions and reduce the need for irrigation.

Vehicle Circulation and Parking

Under Alternative 1, primary vehicular access would continue to be provided from Stevens Way to the western portion of the site with approximately eight short-term parking and vehicle loading areas along Stevens Way NE; fire and emergency access would also be provided along Stevens Way NE. The loading dock for the proposed CSE II Building would be located on the south side of the basement level and would be accessible from Jefferson Road NE and Mason Road NE to the east of the site.

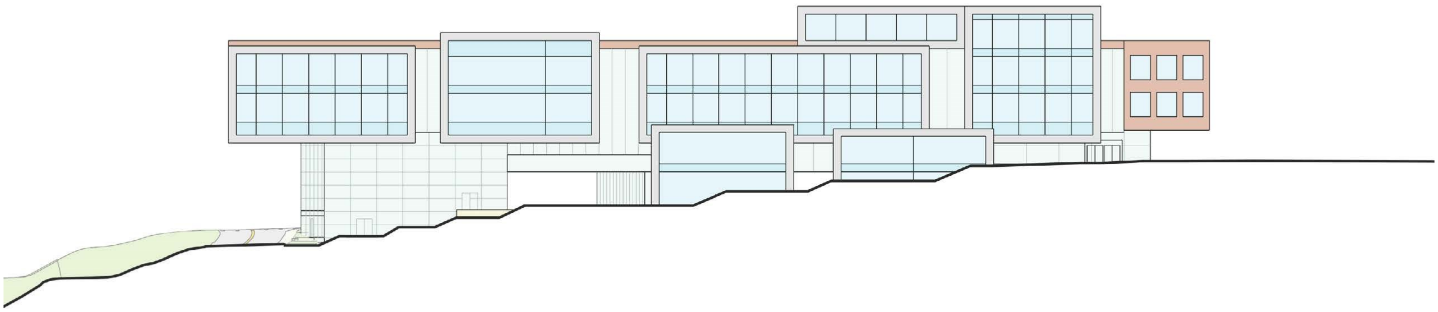
Access through the site on Jefferson Road and Mason Road would be maintained under Alternative 1 and would allow for access through the site and to existing facilities that would be similar to the existing conditions. Existing uses in the site vicinity (i.e. University Power Plant, etc.) require certain height clearances for equipment deliveries along Jefferson Road and Mason Road. Height clearance requirements for Jefferson Road have typically been approximately 16 feet high and height clearances for Mason Road have been approximately 23 feet high. Under Alternative 1, the CSE II Building would span over Jefferson Road NE, but would maintain the existing 16-foot height clearance requirement for existing uses in the site vicinity. The CSE II Building would not span over Mason Road.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

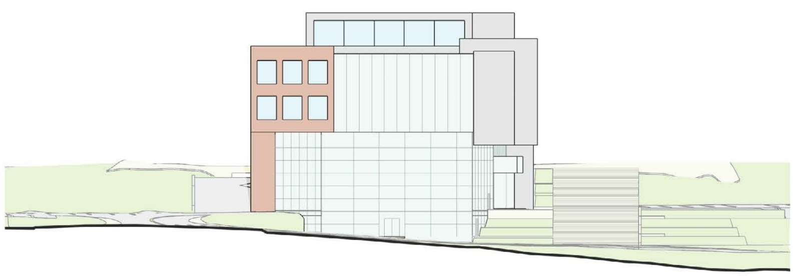
Figure 2-9

Building Rendering from Stevens Way NE—Alternative 1

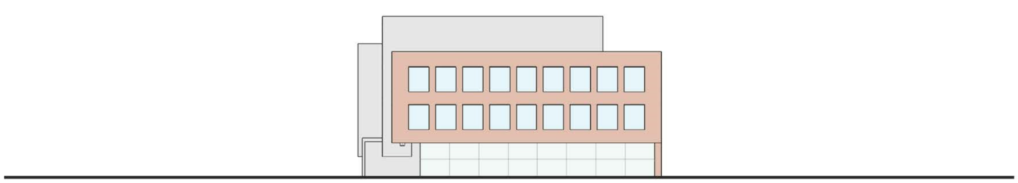


North Elevation

South Elevation



East Elevation



West Elevation

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-10

Building Elevations—Alternative 1

Approximately 28 parking spaces in University Parking Areas C12 and C15 would be temporarily displaced by construction activities under Alternative 1; nine of these spaces would be permanently displaced by the development of the CSE II Building. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the CSE II Project site. Staff and students that drive to campus would be anticipated to park their personal vehicles in assigned University parking lots. Approximately 63 existing bicycle parking spaces would be displaced as part of the project under Alternative 1. New bicycle parking racks would be provided at the southeast portion of the site and along Snohomish Lane and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Pedestrian and Bicycle Circulation

Snohomish Lane is located on the northern edge of the Alternative 1 site and currently provides a pedestrian connection between the Central Campus and areas to the east (i.e., Burke Gilman Trail, Snohomish Overpass/Hec Edmundson Bride and athletic facilities). Under Alternative 1, the CSE II Project would include an enhanced Snohomish Lane pathway connection with new pavement, lighting and landscaping, as well as seating areas along the pathway and adjacent to the building. Snohomish Lane would travel along the northern portion of the proposed CSE II Building which would allow for multiple building entry points along Snohomish Lane, as well as provide for visual interaction between the building and pathway area. The enhanced pathway, which would continue to provide connections between the Central Campus and areas to the east, would feature a landscaped stepped path that connects Stevens Way through the site to the existing Snohomish Overpass/Hec Edmundson Bridge to the east of the site. It should be noted that the orientation, configuration and alignment of Snohomish Lane from Stevens Way NE to Mason Road NE will continue to be developed during the design of the CSE II Project. The University is considering long-term development scenarios for campus circulation that include a potential new pedestrian bridge over Montlake Boulevard connecting the main campus to the east campus. The location of this potential new bridge is likely to be just to the north of the existing bridge. If the University elects to align the Snohomish Lane pathway through Site 16C with the anticipated location of a new bridge (as depicted on the site plan for Alternative 1), it is possible that a temporary mitigation measure will be a needed: a striped diagonal crosswalk on Mason Road NE to connect the new Snohomish Lane to the portion of the existing Snohomish Lane between Mason Road NE and the Burke Gilman Trail. This diagonal crosswalk would be in place until a new bridge is constructed.

In addition, a new outdoor plaza area would be located on the western portion of the site, between the proposed building and Stevens Way, which is intended to create a pedestrian mixing-zone, as well as unify the Paul G. Allen Center and the CSE II Building.

Landscaping

The landscape design for the proposed CSE II Project under Alternative 1 would be reviewed by the University's landscape architect and University Landscape Advisory Committee, and is intended to protect the existing trees on the site to the extent feasible (refer to **Figure 2-4** for a conceptual illustration of landscaping on the site). The proposed design for the Alternative 1 site would be centered around a new outdoor plaza area that would be located between the CSE II Building and Stevens Way. This new plaza would help to create a unified CSE Complex with the adjacent Paul G. Allen Center. An enhanced Snohomish Lane pathway would also serve as a prominent onsite feature. The plaza and pathway areas would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting; new bicycle parking would also be provided along the plaza area and Snohomish Lane. The north and south edges of the site would include new landscaping and trees that would be intended to create a buffer between the new building and the existing adjacent Mechanical Engineering Building and More Hall.

The Alternative 1 site contains 60 existing trees, of which 51 would be considered significant trees per the City of Seattle Director's Rule 16-2008. Of these 51 significant trees, 27 trees are considered to be Exceptional per City of Seattle Director's Rule 16-2008. Approximately 18 existing trees would be removed as part of the proposed CSE II Project, including approximately five significant trees and eight Exceptional trees. As part of development, new replacement trees would be planted on the site to replace the existing trees that would be removed during construction. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on-campus in accordance with typical University procedures. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

Utilities

Stormwater

Under Alternative 1, the CSE II Project would route stormwater to a University-owned eight-inch stormwater main that is located to the south side of the site; this main eventually discharges to Lake Washington.

Per City of Seattle requirements, Green Stormwater Infrastructure (GSI) would be incorporated into the project as appropriate to mitigate the effects of new impervious surfaces on the site. Potential GSI features could include green roof space, stormwater planters, porous pavements, or rainwater collection/re-use.

Water

Domestic and fire protection water service would be provided from the existing University-owned water mains to adjacent to the site (below Stevens Way, Jefferson Road or Mason Road). The proposed CSE II Building would require a four-inch domestic service water line and a six-inch fire protection service lines. Water meters and backflow prevention devices would be installed within the building per University of Washington and City of Seattle standards.

Sewer

New six-inch side sewer connections would be provided for the CSE II Building and would be connected to the existing University-owned sewer main located adjacent to the site (below Stevens Way, Jefferson Road or Mason Road).

Electrical, Telecommunications and Other Utilities

Electrical power, telecommunications and other campus utility services (steam and chilled water) would be provided from the existing mains within the campus utility tunnel below the project site. Emergency power for the building would be provided by the adjacent University Power Plant. Natural gas service for the CSE II Building would be available from an existing University-owned main below Jefferson Road.

Existing Oil Tank

An existing 100-foot diameter oil tank is buried below Jefferson Road and is located along the northern edge of the site. The existing oil tank is considered essential to campus operations and access to the tank would be maintained throughout construction and operation of the CSE II Building. An access hatch for the tank is located approximately within the center of Jefferson Road and overhead crane access to the hatch must be maintained for periodic removal and maintenance of the tank. Under Alternative 1, the CSE II Building would span the southern edge of the tank and structural columns and foundations would be placed to avoid the oil tank and allow the building to span the tank to maintain required access to the tank hatch.

Sound Transit Tunnel

The proposed Sound Transit Link Light Rail tunnel would also pass under the University of Washington campus and in the vicinity of Site 16C (approximately 110 feet below the ground surface of the campus). Electromagnetic fields and vibration associated with the construction and operation of the light rail tunnel can affect certain research activities and functions on campus. However, it is anticipated that research activities within the CSE II Building would not be of the type that are generally affected by the associated electromagnetic fields or vibration.

Construction Activities and Schedule

Existing uses on the Alternative 1 site would be removed as part of the construction activities, including the existing More Hall Annex building. Existing pavement on the site from Snohomish Lane, walkways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility. Pedestrian and bicycle access along Snohomish Lane would be rerouted through the site during the construction process.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Due to the nature of the building being partially buried into the hillside at the basement level, the CSE II Project would require minor regrading on the site, as well as areas of cut and fill. Construction of the project under Alternative 1 would require approximately 9,500 cubic yards of cut/excavated materials and approximately 170 cubic yards of imported fill material. Due to site soil conditions, it is anticipated that none of the cut/excavated material would be used a project fill material.

It is anticipated that construction activities would begin in September 2016 and that the proposed building would be operational by September 2018.

Consistency with CMP-Seattle 2003 for Site 16C

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 16C including: improve the courtyard along Stevens Way NE; develop Snohomish Lane as a major pedestrian corridor; maintain views to the east; and, potentially include an underground building or portions of an underground building.

The design for the CSE II Project under Alternative 1 responds to those policies and guidelines for the site by providing a new outdoor plaza area between the building and Stevens Way NE to help create a unified CSE Complex with the adjacent Paul G. Allen Center. A portion of the CSE II Building would be located below-grade, consistent with the potential guideline for the site[6]. Snohomish Lane would continue to provide pedestrian access between the Central Campus and East Campus, and would be enhanced with new hardscape surfaces, integrated landscaping, pedestrian lighting, seating areas and bicycle

[6] Considering the demolition of More Hall Annex and Plant Operations Annex 7, as well as the underground space under Alternative 1, the total above-ground building space would be approximately 100,000 square feet (101,950 square feet) as identified in the CMP-Seattle 2003 for Site 16C.

parking. Snohomish Lane would be generally retained in its existing alignment to continue to provide views to the east.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of More Hall Annex

Overview

Under Alternative 2, the Computer Science and Engineering II Project would be located on Development Site 16C and would include the retention of the existing More Hall Annex. As indicated earlier in this chapter, More Hall Annex was originally designed specifically for nuclear reactor purposes, and exhibits characteristics that are substantially different from other academic and office buildings on campus. Given the design challenges of meeting the CSE II program goals on the site while retaining all or a portion of More Hall Annex, two design approaches are analyzed in this SEIS (Scenarios 2.1 and 2.2).

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain on the site and the CSE II Building would surround the Annex on the north, east and west sides of the More Hall Annex; approximately 30 to 40 feet of separation would be provided between the CSE II Building and More Hall Annex on each side. The two buildings would be connected at the basement level only and the More Hall Annex would be utilized as part of the new CSE II Building for robotics laboratory space and seminar space; the level 1 (penthouse) portion of the More Hall Annex would remain unutilized. The CSE II Building would include four and a half stories (including a basement level) and contain the same building area and provide the same uses as under Alternative 1 (approximately 134,000 square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, and student/faculty support spaces).

Under Alternative 2 – Scenario 2.2, the existing More Hall Annex would be retained on the site and the CSE II Building would be constructed to the north, east and west of the More Hall Annex. The two buildings would be connected at the basement level and the Level 1 (penthouse) portion of the CSE II Building and the existing More Hall Annex space would be utilized as part of the new building; the basement level of the More Hall Annex would be used for robotics laboratory space, capstone rooms (research/workroom), and bicycle storage, while the Level 1 portion would be used for a café and capstone room. Under this scenario, the CSE II Building would include four and a half stories (including a basement level) and contain the same amount of building area and building uses as described under Alternative 1.

Location

Under each of the Alternative 2 scenarios, the CSE II Building would be located on Development Site 16C. Similar to Alternative 1, the building would be directly adjacent to the Paul G. Allen Center and would potentially include a tunnel connection between the existing and proposed buildings (see **Figures 2-1** and **2-3** for maps of the site location and vicinity).

Alternative 2 – Scenario 2.1

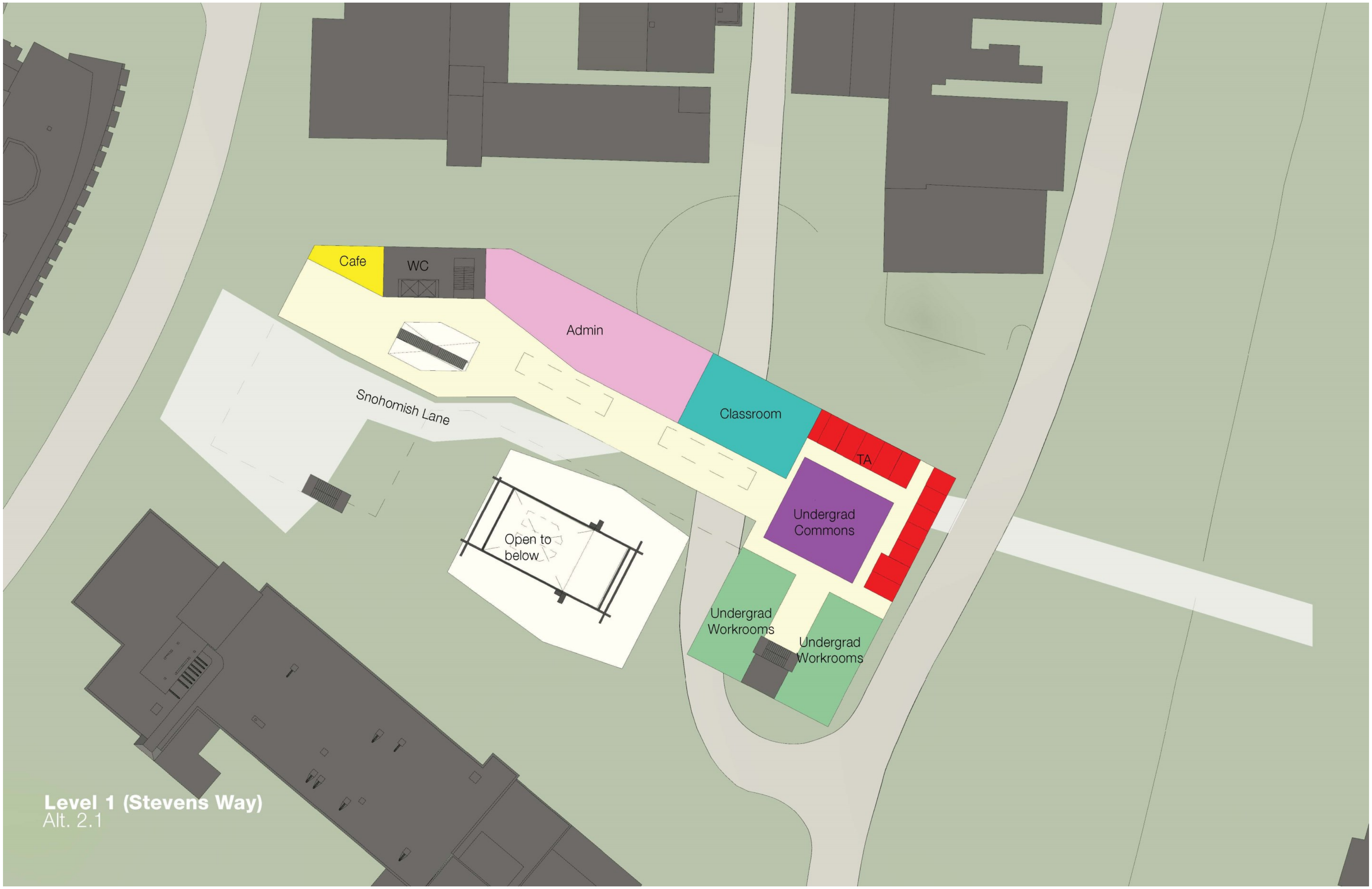
Design Concept

The design for the CSE II Project under Alternative 2 – Scenario 2.1 attempts to accommodate the specific requirements and needs of the CSE Program, while also retaining the More Hall Annex on the site. The More Hall Annex would remain in its current location and the CSE II Building would be constructed surrounding the More Hall Annex on the north, east and west sides with approximately 30 to 40 feet of separation between the existing building and the CSE II Building above-grade. The existing below-grade space in the More Hall Annex would be repurposed and contain new CSE program space; the CSE II Building would not connect with the More Hall Annex at the Level 1 (penthouse) and this portion of the More Hall Annex would remain unutilized (see **Figure 2-11** for a site plan of Alternative 2 – Scenario 2.1).

The location of the CSE II Building under Alternative 2 – Scenario 2.1 would allow for a unified CSE Complex with the adjacent Paul G. Allen Center, similar to Alternative 1. The location and configuration of the new building ("C"-shaped upper levels) would provide a frame around the existing More Hall Annex on the north, east and west sides in order to provide a buffer between the two structures and maintain as much of the original character of the More Hall Annex as feasible. However, the location of the CSE II Building would effectively block the view of the More Hall Annex from Stevens Way to the west, Jefferson Road to the north and Mason Road to the east. In addition, the location of the CSE II Building under this scenario would also result in modifications to the alignment of Snohomish Lane through the site area and block the existing view corridor to Lake Washington.

The CSE II Building under this scenario would include four and a half stories (including a partial basement) and contain approximately 134,000 gross square feet of building space for classrooms, research workrooms, communal spaces, offices, administrative areas, and support spaces. Of the total building area, approximately 103,050 square feet would be considered above-ground space and approximately 30,950 square feet would be considered below-ground space.

However, the retention and reuse of More Hall Annex as part of the CSE II Building would result in disconnected program space and inefficient space for the CSE Program needs as compared to Alternative 1. Given the unique building characteristics of the More Hall Annex (such as basement level open to the penthouse, 10-inch thick walls, expressive roof formation, etc.), the ability of the More Hall Annex to efficiently accommodate computer science program use is not anticipated. The design of the CSE II Building under this scenario would also result in a greater amount of program space at the basement level, as well as isolated program space at Levels 2 and 3 of the building.



Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-11

Site Plan—Alternative 2: Scenario 2.1

Under Scenario 2.1, the Basement Level would include a partial basement with space for a lecture hall, classrooms, a seminar room, robotics laboratory space, and shop space. Below-grade basement space within the retained More Hall Annex would be incorporated into this level and would include a portion of the space dedicated for the robotics laboratory and seminar space. Due to the five-foot height difference between the floor heights of the Annex and CSE II Building, the uses within the Annex would be fragmented from the surrounding CSE II uses. The level change between the More Hall Annex and CSE II Building also creates inefficient space due to the required stair and ADA ramp that would connect the new building to the More Hall Annex. Mechanical space would be located on the west edge of the Basement Level; this area would be separated from the other basement uses to allow for the continued access to Jefferson Road through the site (see **Figure 2-12** for a floor plan of the Basement Level).

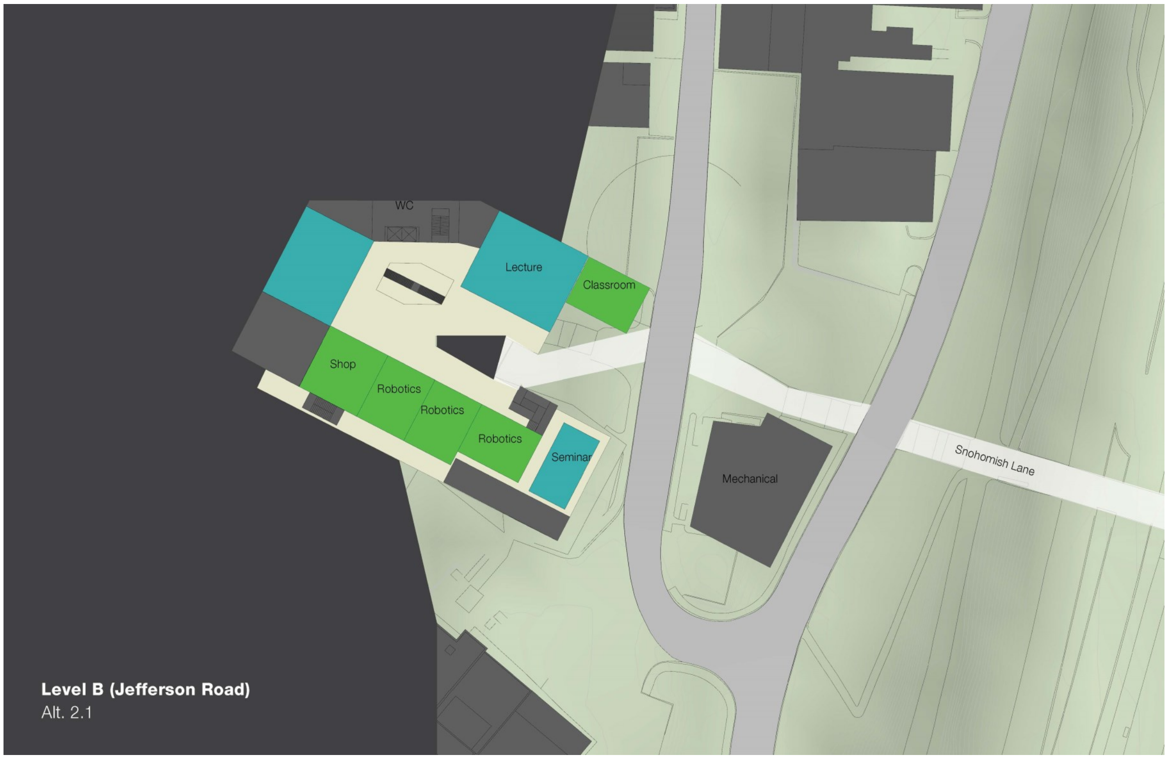
Level 1 of the CSE II Building would include an entry lobby and administrative space on the western portion of the level. The lobby area and primary entry to the building would be accessible from Snohomish Lane and a plaza/pathway connection to Stevens Way. Administration areas, classrooms, undergraduate workrooms and common areas would be provided on Level 1. The penthouse portion of the More Hall Annex would be retained at the ground level and would remain open to the floor area below (see **Figure 2-12** for a floor plan of Level 1).

Level 2 of the building would contain research space and offices on the north side of the floor; capstone rooms (research/workroom) and offices on the west side; and, offices on the east side (see **Figure 2-13** for a floor plan of Level 2).

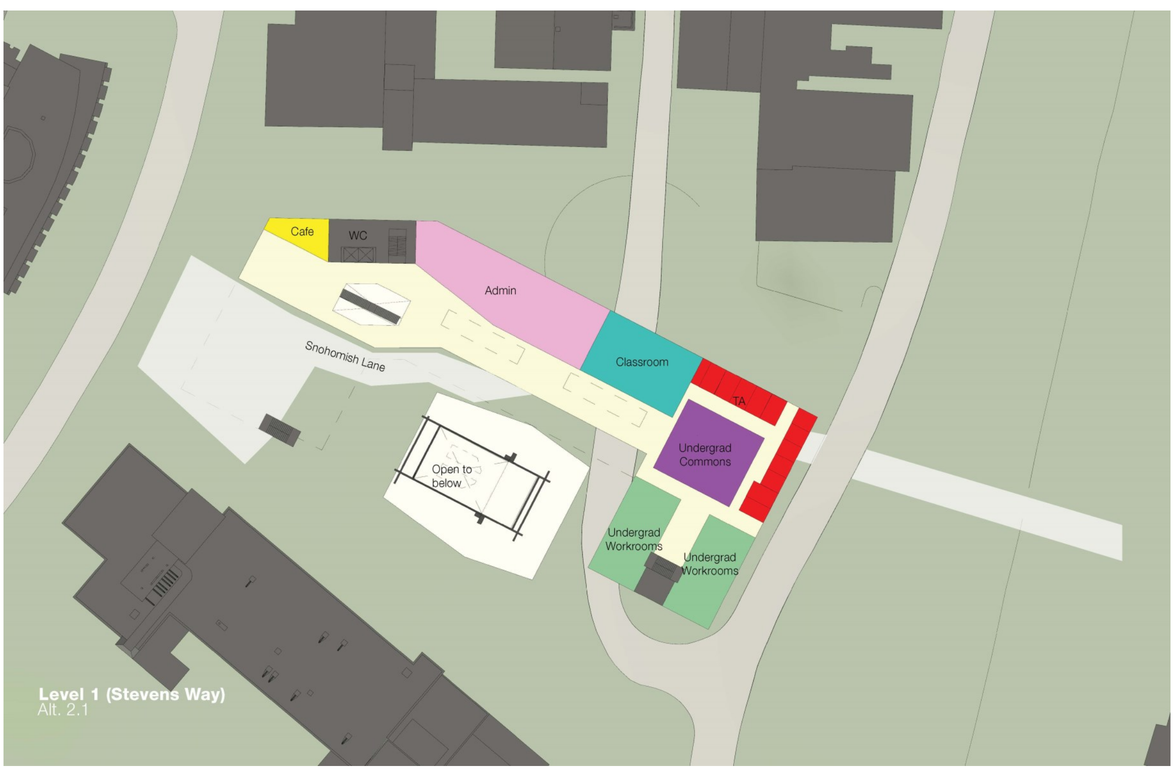
Level 3 of the CSE II Building would contain a similar layout as Level 2 with the exception of graduate workrooms which would replace seminar rooms on the west side of the floor (see **Figure 2-13** for a floor plan of Level 3).

Level 4 of the building would be a partial floor event space and associated service space located on the west side of the floor (see **Figure 2-13** for a floor plan of Level 4).

Similar to Alternative 1, the building's exterior materials would reinforce the contextual relationship between the Allen Center and CSE II Building, and would remain compatible with other nearby structures. However, the Alternative 2.1 building forms a "C" around the More Hall Annex to provide a buffer between the CSE II building and the More Hall Annex. The west, north, and east façades of the new building would be designed to reinforce its relationship to the Allen Center. The inner portion of the "C" would be a mix of glass and opaque paneling.



Scenario 2.1—Basement Plan



Scenario 2.1—Level 1 Plan

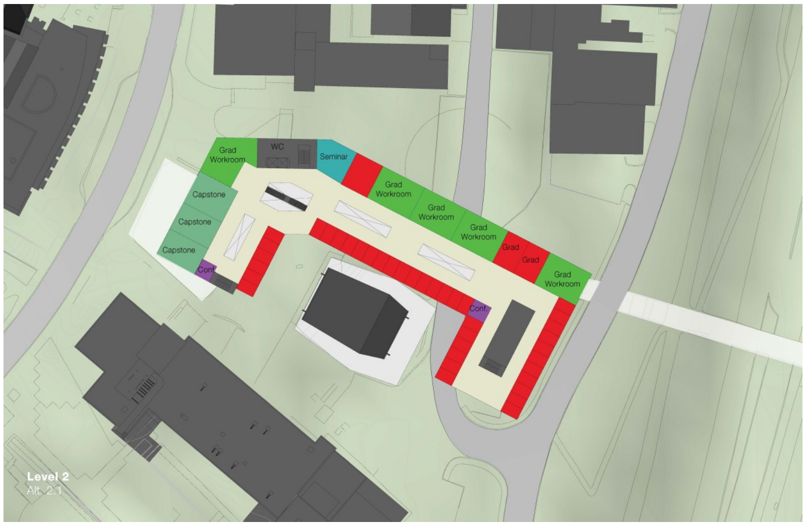
Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

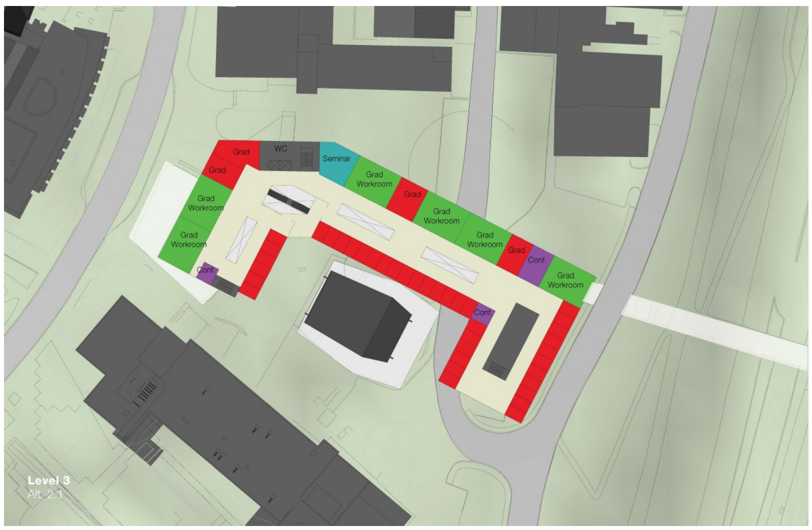
Figure 2-12

Basement and Level 1 Floor Plan—Alternative 2: Scenario 2.1

Scenario 2.1
Level 2 Plan



Scenario 2.1
Level 3 Plan



Scenario 2.1
Level 4 Plan

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-13

Level 2, Level 3 and Level 4 Floor Plan—Alternative 2: Scenario 2.1

Under Scenario 2.1, the location of the CSE II Building would require the realignment of the existing Snohomish Lane pathway through the site. The west end of the pathway would be moved to the south to accommodate the CSE II Building. The pathway would then travel between the CSE II Building and the retained More Hall Annex before passing back underneath the CSE II Building to reconnect with the existing Snohomish Lane pathway and Snohomish Overpass/Hec Edmundson Bridge to the east. Snohomish Lane under this scenario would result in a more circuitous pedestrian route than under the existing conditions and Alternative 1, and would eliminate the view corridor from Stevens Way NE.

Alternative 2 – Scenario 2.2

Design Concept

Under Alternative 2 – Scenario 2.2, the design for the CSE II Building would create a new building with program space that attempts to meet the existing and future requirements of the CSE Program and also retain the existing More Hall Annex on the site by incorporating it into the construction of the CSE II building. The More Hall Annex would remain in its current location and the proposed CSE II Building would be constructed around and connected to the north and west sides of the More Hall Annex (as opposed to surrounding the More Hall Annex with 30 to 40 feet of separation between the buildings as under Alternative 2 – Scenario 2.1). See **Figure 2-14** for a site plan of Alternative 2 – Scenario 2.2.

Similar to Alternative 1, the location of the CSE II Building on the site would create a unified CSE Complex with the adjacent existing Paul G. Allen Center. The CSE II Building under this scenario would feature a similar configuration as Alternative 2 – Scenario 2.1 ("C"-shaped configuration on the upper levels); however, the new building would be connected to the More Hall Annex at both the basement and ground floor levels and no buffer would be provided between the Annex and the CSE II Building (compared to only a basement level connection under Scenario 2.1).

Similar to Scenario 2.1, development under this scenario would obstruct views of the More Hall Annex from Stevens Way, Jefferson Road and Mason Road. Construction of the CSE II Building as an attached structure to the More Hall Annex could also affect the historic character of the Annex structure. In addition, given the unique building characteristics of the More Hall Annex (such as basement level open to the penthouse, 10-inch thick walls, expressive roof formation, etc.), the ability of the More Hall Annex to efficiently accommodate computer science program use is not anticipated.

University of Washington Computer Science and Engineering II Project
Supplemental Environmental Impact Statement

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-14

Site Plan—Alternative 2: Scenario 2.2

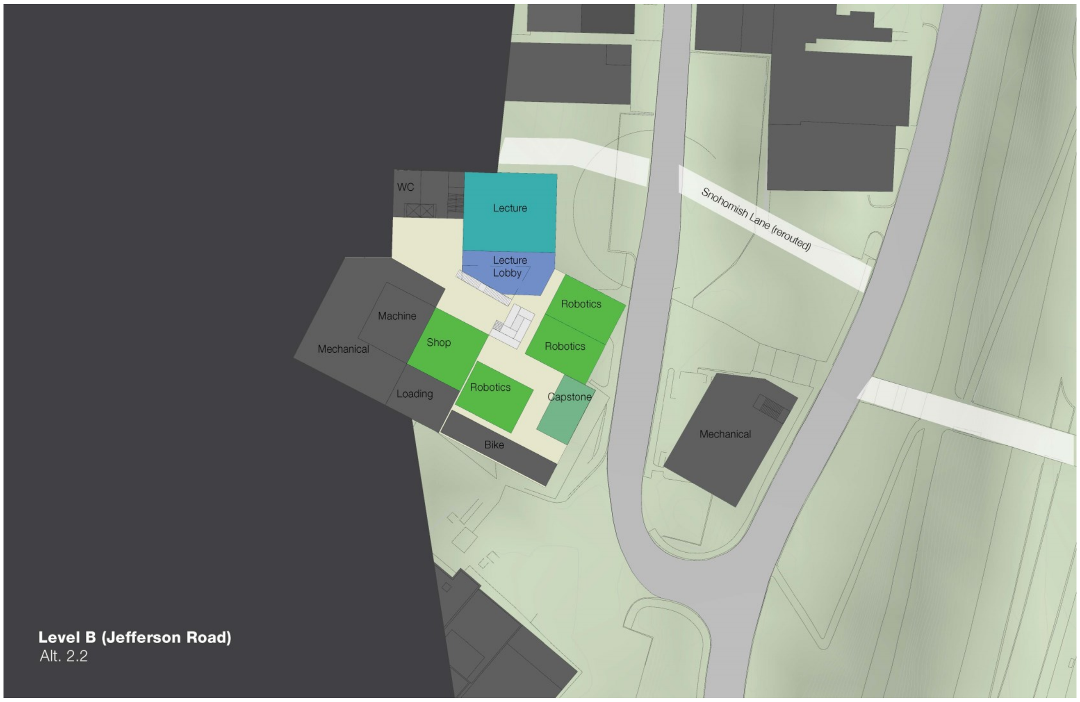
Under Alternative 2 – Scenario 2.2, the CSE II Building would be four and a half levels (including a partial basement) and would contain approximately 134,000 gross square feet of building space for classrooms, research labs, communal spaces, offices, administrative areas, and support spaces. Of the total building area, approximately 102,910 square feet would be considered above-ground space and approximately 31,090 square feet would be considered below-ground space. However, the retention and incorporation of the existing More Hall Annex into the new CSE II Building would result in inefficient program space for the CSE Program's needs, create disconnects between spaces within the building, and compromise the functionality of the building for the CSE Program uses.

Under Scenario 2.2, the Basement Level of the CSE II Building would include a lecture hall and lobby area, seminar room, robotics lab, mechanical and machine rooms, restrooms and a loading dock. The Basement Level would be connected to the More Hall Annex and it is assumed that uses such as a robotics laboratory, a capstone room (research/workroom) and bicycle storage would be provided within the former reactor room. Similar to Scenario 2.1, the difference in floor heights between the CSE II Building and More Hall Annex would fragment the space within the Annex and create inefficient space due to stairway and ADA access connections. Additional mechanical space would be located on the west edge of the level; this area would be separated from the other basement uses to allow for the continued access to Jefferson Road through the site (see **Figure 2-15** for a floor plan of the Basement Level).

Level 1 of the CSE II Building would include the main entrance and lobby area on the western portion of the level, as well as administrative space, restrooms and capstone rooms. Classrooms, undergraduate workrooms, and common areas would be provided in the eastern portion of the level. Also within Level 1, a capstone room and cafe would be provided within the More Hall Annex penthouse level which allows occupants to view down to the robotics lab in the Basement Level (see **Figure 2-15** for a floor plan of Level 1).

Level 2 of the CSE II Building would include undergraduate student workrooms, offices, and restrooms throughout the floor. In addition, a seminar room would be located on the north side of Level 2. Additional offices, conference rooms and restrooms would be provided on the east side of the level (see **Figure 2-16** for a floor plan of Level 2).

Level 3 would include a similar layout as Level 2; however, additional workroom space would be provided to replace the seminar rooms or commons areas located on Level 2. Level 4 of the building would be a partial floor event space and associated service space located on the west side of the floor (see **Figure 2-16** for a floor plan of Level 3 and 4).



Scenario 2.2—Basement Plan

Scenario 2.2—Level 1 Plan

Source: LMN, 2015.

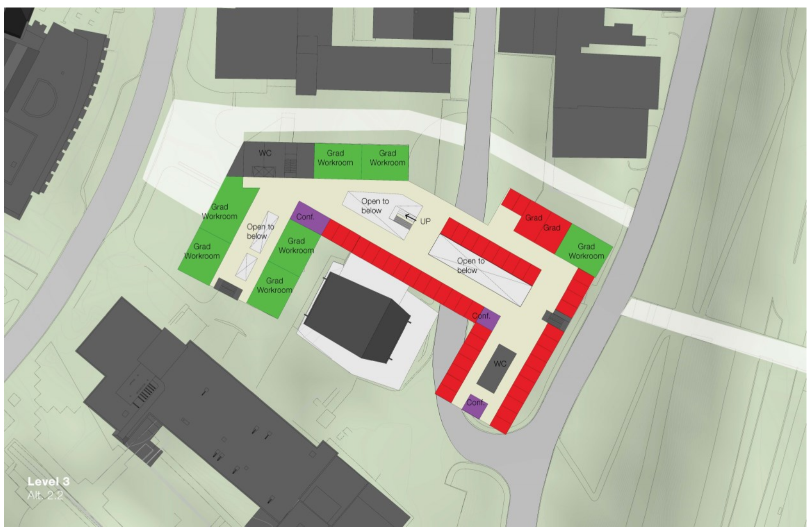
EA Engineering, Science, and Technology, Inc.

Figure 2-15

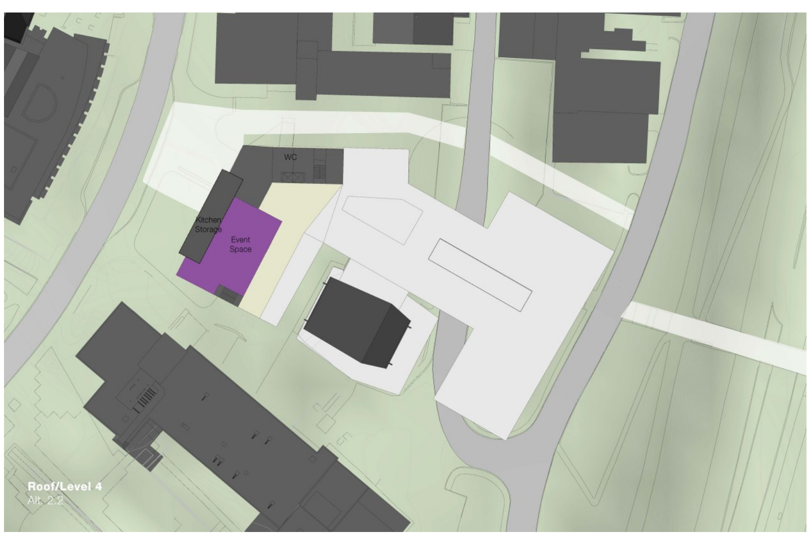
Basement and Level 1 Floor Plan—Alternative 2: Scenario 2.2

Scenario 2.2
Level 2 Plan

Scenario 2.2
Level 3 Plan



Scenario 2.2
Level 4 Plan



Source: LMN, 2015.

Figure 2-16

Level 2, Level 3 and Level 4 Floor Plan—Alternative 2: Scenario 2.2

EA Engineering, Science, and Technology, Inc.

Similar to Alternative 1 and Alternative 2 - Scenario 2.1, the exterior building materials would reinforce the contextual relationship between the Paul G. Allen Center and CSE II Building, and would remain compatible with other nearby structures. Similar to Scenario 2.1, the upper levels of Scenario 2.2 form a “C” around the More Hall Annex; however, the ground level of Scenario 2.2 connects to the More Hall Annex at Level 1 and attaches program space directly adjacent to the existing opening.

Under Scenario 2.2, the location and orientation of the CSE II Building would require the realignment of the existing Snohomish Lane pathway through the site. The west end of the pathway would be realigned at the northwest corner of the site to accommodate the CSE II Building. The path would travel along the northern edge of the CSE II Building and shift to the south along the eastern edge of the building to reconnect with the existing pathway and Snohomish Overpass/Hec Edmundson Bridge to the east. Snohomish Lane under this scenario would result in a more circuitous pedestrian route than under the existing conditions and Alternative 1.

Features Similar under Scenario 2.1 and 2.2

Sustainable Design

Similar to Alternative 1, the design of the CSE II Building under the Alternative 2 scenarios would be anticipated to meet or exceed the University of Washington’s requirement of LEED Silver. Sustainable design features would include energy efficient HVAC systems, natural ventilation, low-flow plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope. In addition, the site design for the CSE II Project would maximize the opportunity to alleviate pressure on the existing stormwater infrastructure through the incorporation of pervious paving and landscaping. Existing trees would also be maintained to the extent feasible and areas of new landscaping would incorporate species that are well suited to the local environmental conditions and reduce the need for irrigation.

Vehicle Circulation and Parking

Similar to Alternative 1, primary vehicular access under the Alternative 2 scenarios would continue to be provided from Stevens Way to the western portion of the site with short-term parking and vehicle loading areas along Stevens Way NE; fire and emergency access would also be provided along Stevens Way NE. The loading dock for the CSE II Building would be located on the south side of the basement level and would be accessible from Jefferson Road NE and Mason Road NE to the east of the site.

Access through the site on Jefferson Road and Mason Road would be maintained under the Alternative 2 scenarios and would allow for access that would be similar to the current conditions and Alternative 1. Existing uses in the site vicinity (i.e. University Power Plant, etc.) require certain height clearances for equipment deliveries along Jefferson Road and Mason Road. Height clearance requirements for Jefferson Road have typically been approximately 16 feet high and height clearances for Mason Road have been approximately 23 feet high. Development under Alternative 2 would provide appropriate clearance for Jefferson Road and Mason Road.

Approximately 28 parking spaces (within University Parking Areas C12 and C 15) would be temporarily displaced by construction activities under Alternative 2; nine of these parking spaces would be permanently displaced by the development of the CSE II Building. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the CSE II Project site. Staff and students that drive to campus would be anticipated to park their personal vehicles in assigned University parking lots. New bicycle parking would be provided at the south portion of the building and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Pedestrian and Bicycle Circulation

As described under each of the Alternative 2 scenarios, development of the CSE II Building would compromise the existing Snohomish Lane pathway and require the realignment of Snohomish Lane through the site (i.e., between the More Hall Annex and CSE II Building under Scenario 2.1 or to the north of the CSE II Building under Scenario 2.2). Realignment of the pathway would also obstruct a portion of the existing view corridor from Snohomish Lane toward Lake Washington to the west.

A new outdoor plaza area would be located on the western portion of the site, between the proposed building and Stevens Way, similar to Alternative 1. The new plaza would create a mixing zone of pedestrian pathways from Snohomish Lane, Stevens Way, and the entries for the Mechanical Engineering Building and More Hall.

Landscaping

Under Alternative 2, the landscape design for the CSE II Project would be reviewed by the University's landscape architect and the University's Landscape Advisory Committee, and would protect the existing trees on the site to the extent feasible. Similar to Alternative 1, the design would be centered around a new outdoor plaza area on the western portion of the site to allow a unified CSE Complex with the adjacent Paul G. Allen Center. The Snohomish Lane pathway would also be realigned under Alternative 2 and serve as a prominent onsite feature. The plaza and pathway areas would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting.

Tree removal and replacement on the site would be the same as described under Alternative 1 and would be intended to meet or exceed the City of Seattle's tree replacement requirements, as well as in accordance with the University of Washington's Tree Management Plan.

Utilities

Utilities connections to serve the CSE II Building are anticipated to be similar to those described under Alternative 1 and would include water, sewer, stormwater, electrical, telecommunications, steam, and chilled water.

Similar to Alternative 1, the Alternative 2 scenarios would maintain access to the existing oil tank is located approximately within the center of Jefferson Road and overhead crane access to the oil tank hatch would be maintained for periodic removal and maintenance of the tank. The CSE II Building would span the southern edge of the tank and structural columns and foundations would be placed to avoid the oil tank and allow the building to span the tank to provide required access to the tank hatch.

Construction Activities/Schedule

Under Alternative 2, the More Hall Annex would be retained on the site and the building would be protected during construction activities, as necessary. Existing paved uses on the site would be removed as part of the construction activities, including existing pavement on the site from Snohomish Lane, walkways and other paved areas. Pedestrian and bicycle access along Snohomish Lane would be rerouted through the site during the construction process.

Similar to Alternative 1, construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, and approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Similar to Alternative 1, the CSE II Project would require minor regrading, as well as areas of cut and fill. Construction of the proposed project under Alternative 2 would require approximately 11,300 cubic yards of cut/excavated materials and approximately 1,150 cubic yards of imported fill material. Due to site soil conditions, it is anticipated that none of the cut/excavated material would be used a project fill material.

It is anticipated that construction activities would begin in September 2016 and that the proposed building would be operational by September 2018.

Consistency with CMP-Seattle 2003 for Site 16C

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 16C including: improve the courtyard along Stevens Way NE; develop Snohomish Lane as a major pedestrian corridor; maintain views to the east; and, potentially include an underground building or portions of an underground building.

The design for the CSE II Project under Alternative 2 responds to those policies and guidelines for the site by providing a new outdoor plaza area between the building and Stevens Way NE to help create a unified CSE Complex with the adjacent Paul G. Allen Center. A portion of the CSE II Building would be located below-grade, consistent with the guidelines for the site. The Snohomish Lane pathway would be realigned to continue to provide pedestrian access between the Central Campus and East Campus. The pathway would be enhanced with new hardscape surfaces, integrated landscaping, pedestrian lighting, seating areas and bicycle parking. However, under Alternative 2, views across the site would be obstructed by the CSE II Building and the realigned Snohomish Lane.

Alternative 3 – Development of the CSE II Project on Site 14C

Overview

Under Alternative 3, the CSE II Building would be located on Development Site 14C and would include the removal of the existing buildings on the site (University Facilities Buildings and Plant Operation Annex Buildings); existing uses (and associated staff) on the site would be relocated prior to construction and could require the development or acquisition of new office space to accommodate the displaced uses. Alternative 3 includes two development scenarios for the CSE II Building on the site. Alternative 3 – Scenario 3.1 would construct the CSE II Building as a low rise building (four stories, including a partial basement) in an east-west orientation along the northern portion of Development Site 14C. Alternative 3 – Scenario 3.2 would construct the CSE II Building as a high-rise building (seven stories, including a partial basement) with a north-south orientation along Stevens Way and Jefferson Road.

Location

Development of the CSE II Project under Alternative 3 would be located on Development Site 14C which is generally bounded by the University of Washington Club Building and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west. Due to the site location, development of the CSE II Project on the Alternative 3 site would be disconnected from the existing CSE Program uses within the Paul G. Allen Center and would not result in a unified CSE Program Complex (see **Figure 2-1** for map of the University of Washington campus and Site 14C).

Alternative 3 – Scenario 3.1

Design Concept

Under Alternative 3 – Scenario 3.1, the CSE II Building would be constructed on the northern portion of Site 14C, between Stevens Way and Mason Road. The design of the building would include a low-rise, four-story structure (including partial basement) with approximately 130,000 square feet of building space. Of the total building area, approximately 111,200 square feet would be considered above-ground space and approximately 18,800 square feet would be considered below-ground space. The building would be approximately 48 feet in height which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*.

The location of the CSE II Building on Site 14C would result in a disconnect between the existing CSE Program uses in the Paul G. Allen Center and the proposed new building and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The orientation of the CSE II Building in an east-west direction along the northern edge of Site 14C would result in the building spanning the existing north-south vehicular roadway and pedestrian connection between Stevens Way, University Parking Area C19, and Jefferson Road. As a result, the proposed building height under this scenario would impact views from the existing adjacent University of Washington Club Building to the north (see **Figure 2-17** for a site plan of Scenario 3.1). Similar to Alternative 1, the building would include classrooms, research labs, communal spaces, offices, and support spaces. The building would support approximately 265 new staff, faculty and graduate students; classroom and computer lab areas would also provide 785 seats for student use.

Under Alternative 3 – Scenario 3.1, the Basement Level would include mechanical space in the western portion and robotics lab and shop space in the eastern portion of the level. These areas would be separated to allow for continued access of the internal driveway between University Parking Area C19 and Jefferson Road. The upper levels of the building would span the roadway to allow for continued vehicular access between the parking area and Jefferson Road. A new sidewalk would also be incorporated into the roadway for provide enhanced pedestrian access through the site (see **Figure 2-18** for the Basement Level floor plan).

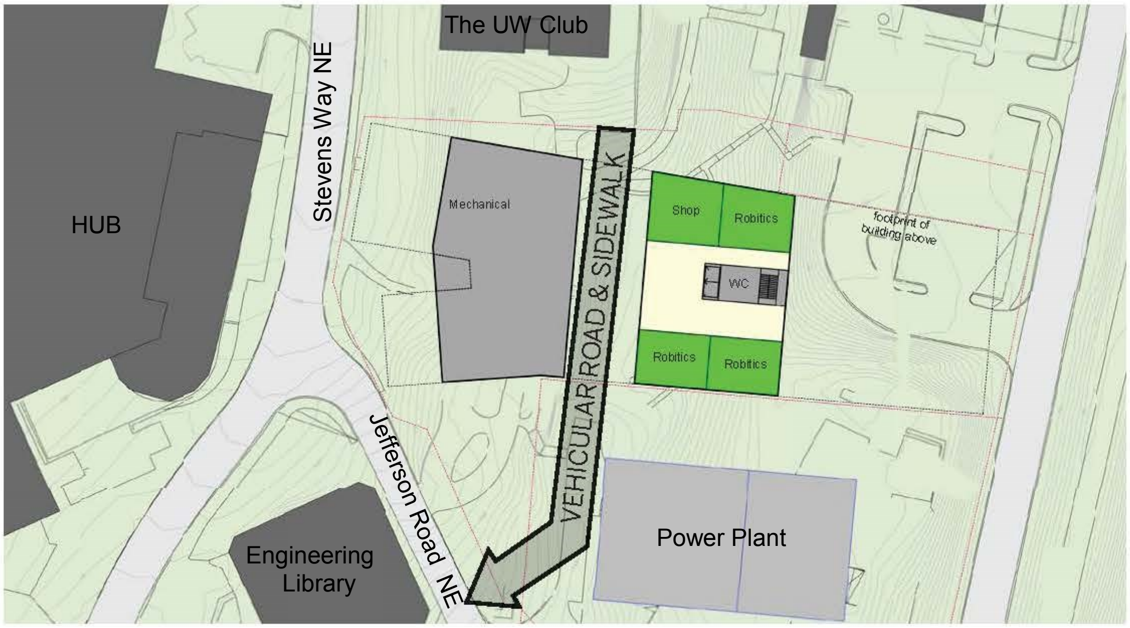
Level 1 would include a lecture hall, classrooms, seminar rooms, and event space along the north side of the building. The main entry and lobby would be located along the west side of the level with primary access from the entry courtyard off of Stevens Way. Administrative space, a seminar room and mechanical space would be provided on the south side of the building. Restrooms would be centrally located on the level and portions of the central areas of Level 1 would be open to the levels above (see **Figure 2-18** for the Level 1 floor plan).

Levels 2 and 3 include similar floor layouts with laboratories and offices along the north side of the level with offices and mechanical rooms along the south portion of the level. Offices and restrooms would be centrally located and portions of the central area of each level would be open to the areas below. Level 3 would also include capstone rooms along the eastern edge of the level (See **Figure 2-19** for floor plans of Levels 2 and 3).

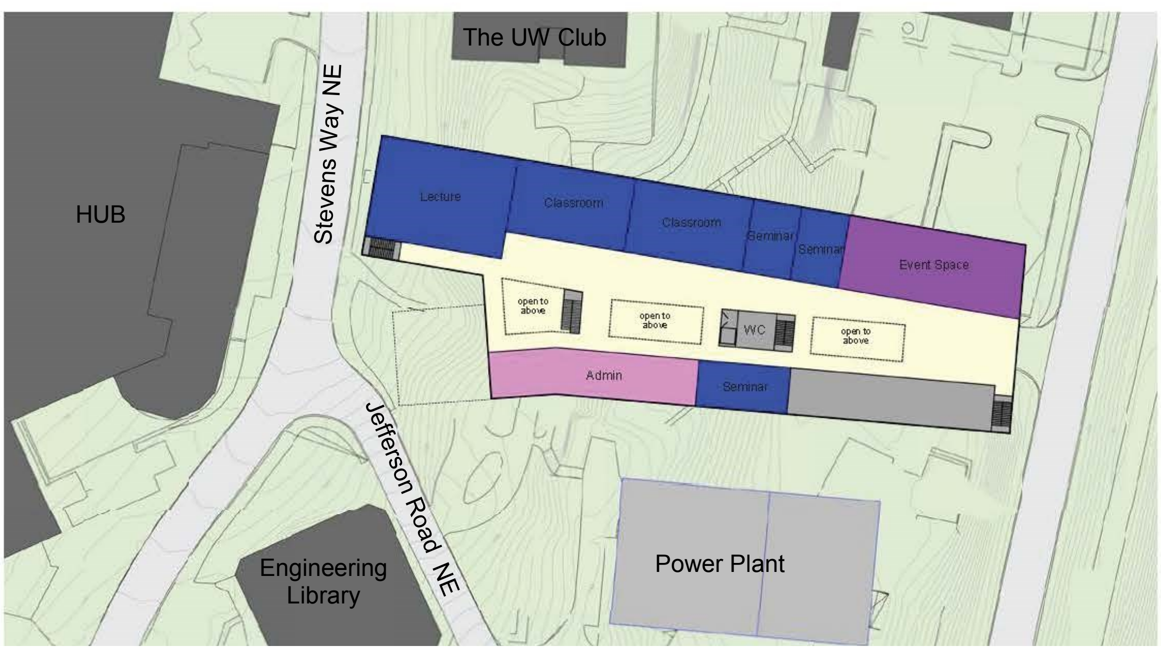
Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-17
Site Plan—Alternative 2: Scenario 3.1



Scenario 3.1—Basement Plan



Scenario 3.1—Level 1 Plan

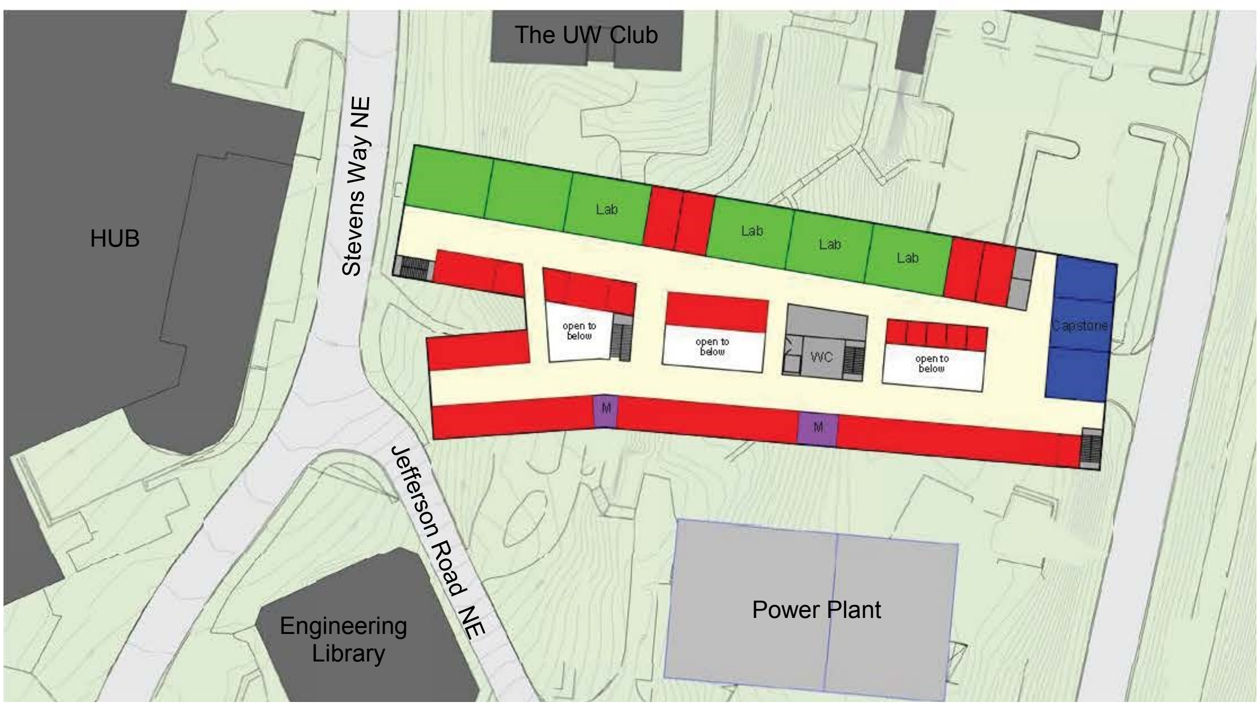
Source: LMN, 2015.

Figure 2-18

Basement and Level 1 Floor Plan—Alternative 3: Scenario 3.1

EA Engineering, Science, and Technology, Inc.

Scenario 3.1—Level 2 Plan



Scenario 3.1—Level 3 Plan

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-19

Level 2 and Level 3 Floor Plan—Alternative 3: Scenario 3.1

The exterior design of Alternative 3.1 includes materials that will complement the existing campus context. Proposed building materials include a mix of masonry, metal panel, and curtain wall. The arrangement of materials and openings would be intended to complement the Paul G. Allen Center; however, the building's relationship to the Paul G. Allen Center would not be apparent given the two sites are not adjacent to one another.

Alternative 3 – Scenario 3.2

Design Concept

Under Alternative 3 – Scenario 3.2, the CSE II Building would be constructed on the western portion of Site 14C, adjacent to Stevens Way and Jefferson Road. The design of the building under this scenario would include a high-rise, seven-story structure (including a partial basement) with approximately 130,000 square feet of building space. Of the total building area, approximately 118,280 square feet would be considered above-ground space and approximately 9,500 square feet would be considered below-ground space. The CSE II Building would be approximately 75 feet tall, which would be below the 105-foot height limit that is established for the site under the *CMP-Seattle 2003*.

Similar to Scenario 3.1, development under this scenario would result in a disconnect between the existing CSE uses in the Paul G. Allen Center and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The north-south orientation along the western edge of the site would require the realignment of the north-south roadway and pedestrian access but would not require any development over the roadway and pedestrian area.

The orientation of the building on the site would also maintain the existing views from the University of Washington Club Building to the north; however, certain views from HUB to the west could be obstructed with development under Scenario 3.2. In addition, the configuration of the building as a high-rise structure under Scenario 3.2 would result in smaller floor plates which would further divide uses within the building and associated opportunities for collaboration (see **Figure 2-20** for a site plan of Scenario 3.2).

Similar to Alternative 1, the building would include classrooms, research labs, communal spaces, offices, and support spaces. The building would support approximately 265 new staff, faculty and graduate students; classroom and computer lab areas would also provide 785 seats for student use. Under Scenario 3.2, the Basement Level would include workroom areas and shop space along the east portion of the level; bicycle parking/storage would also be provided in this area. Mechanical space would be provided along the west and south portion of the level (see **Figure 2-21** for a floor plan of the Basement Level).

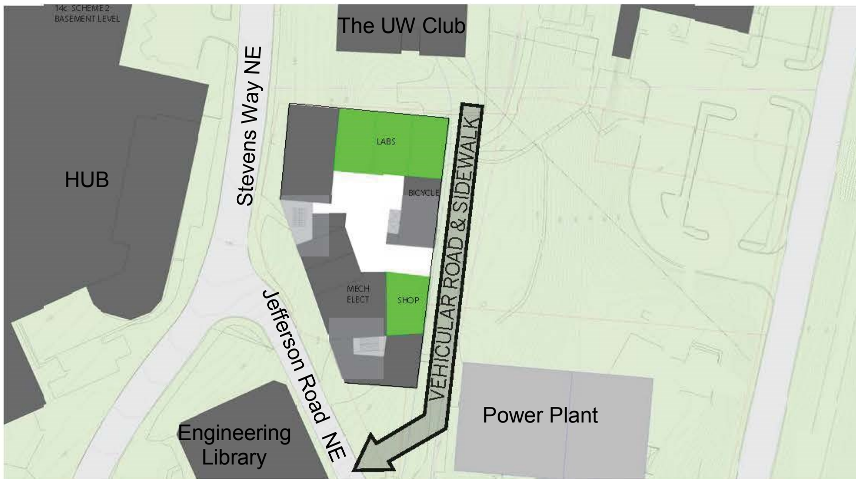
Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

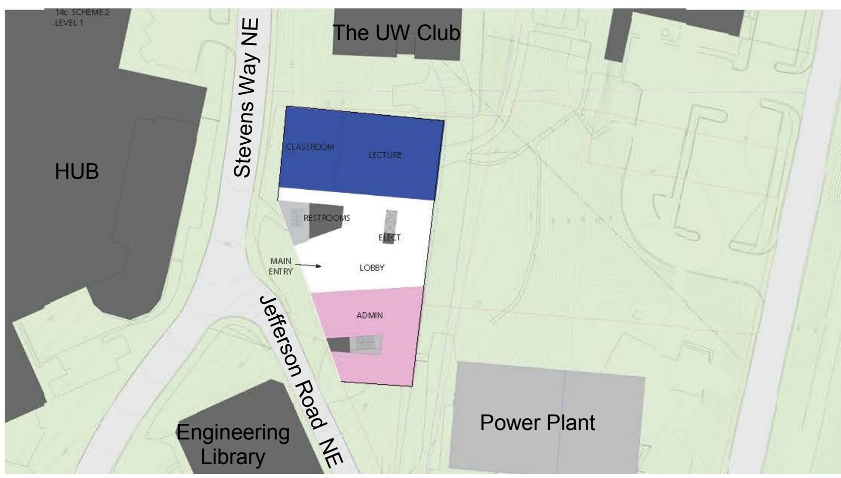
Figure 2-20

Site Plan—Alternative 2: Scenario 3.2

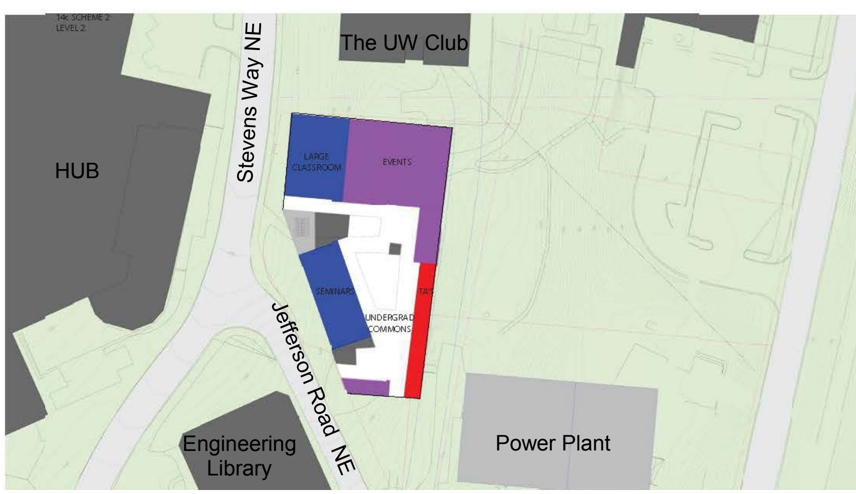
Scenario 3.2
Basement Plan



Scenario 3.2
Level 1 Plan



Scenario 3.2
Level 2 Plan



Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-21

Basement, Level 1 and Level 2 Plan—Alternative 3: Scenario 3.2

Level 1 would provide lecture hall and classroom space along the north portion of the level. A centrally located lobby area would be provided on this level and would allow for primary access from the entry courtyard via Stevens Way. Administrative space would also be included at the south end of Level 1 (see **Figure 2-21** for the Level 1 floor plan).

Classroom and event space would be located in the north portion of Level 2. Seminar rooms would be provided along the southwest portion of the level and offices would be provided on the southeast portion. An undergraduate student commons area would be centrally located within Level 2 (see **Figure 2-21** for the floor plan of Level 2).

Level 3 would include laboratory space within the northwest portion of the level with capstone rooms provided along the southwest area. Offices would be provided along the entire east side of the level (see **Figure 2-22** for the Level 3 floor plan).

Levels 4 through 6 would contain similar floor layouts and provide laboratory space in the northwest corner of the level with seminar rooms and offices in the southwest corner. Offices would be provided along the entire east side of each level (see **Figure 2-22** for the floor plans of Level 4 through 6).

Similar to Alternative 3.1, the exterior design of Alternative 3.2 would include materials that will complement the existing campus context. Proposed building materials include a mix of masonry, metal panel, and curtain wall. The arrangement of materials and openings would be intended to complement the Paul G. Allen Center; however, the building's relationship to the Paul G. Allen Center would not be apparent given the two sites are not adjacent to one another.

Features Similar under Scenarios 3.1 and 3.2

Sustainable Design

Similar to Alternatives 1 and 2, the design of the CSE II Building under the Alternative 3 scenarios would be intended to meet or exceed the University of Washington's requirement of LEED Silver. Sustainable design features would include energy efficient HVAC systems, natural ventilation, low-flow plumbing fixtures, natural daylighting, low VOC materials, and a high performing building envelope. In addition, the site design for the CSE II Project would maximize the opportunity to alleviate pressure on the existing stormwater infrastructure through the incorporation of pervious paving and landscaping. Existing trees would also be maintained to the extent feasible and areas of new landscaping would incorporate species that are well suited to the local environmental conditions and reduce the need for irrigation.

Scenario 3.2—Level 3 Plan

Scenario 3.2—Level 4-6 Plan

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-22

Level 3 and Level 4-6 Plan—Alternative 3: Scenario 3.2

Circulation and Parking

Vehicular access under the Alternative 3 site would continue to be provided from the western portion of the site along Jefferson Road via Stevens Way; fire and emergency access would also be provided from Stevens Way and Jefferson Road. The existing north-south roadway connection between Stevens Way and Jefferson Road would also be maintained under Alternative 3 and would provide additional access to the CSE II Building. A new sidewalk would also be provided along the roadway to create enhanced pedestrian connections through the site. The loading dock for the CSE II Building would be located on the south side of the basement level and would be accessible from the north-south vehicular roadway.

Approximately 60 parking spaces would be temporarily displaced by construction activities under Alternative 3, including approximately four spaces in University Parking Area C19, 35 spaces in N24, and 21 spaces in C21. These spaces are anticipated to be replaced once the development of the CSE II Building is completed. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the site. Staff and students that drive to campus would be anticipated to park their personal vehicles in surrounding University parking lots.

Approximately 19 bicycle parking spaces would be displaced as part of the construction of the CSE II Building. New bicycle parking racks would be provided at the west and south portions of the site and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Landscaping

The landscape design for the proposed CSE II Project under Alternative 3 would be reviewed by the University's landscape architect and University Landscape Advisory Committee, and is intended to protect the existing trees on the site to the extent feasible. The design for the site would be centered around a new entry courtyard adjacent to Stevens Way. The upper levels of the CSE II building would extend over the courtyard to create covered outdoor gathering space near the entrance to the building. The courtyard and associated pathway areas on the site would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting.

The Alternative 3 site (Site 14C) contains 108 existing trees, of which 93 would be considered significant trees. Of these 93 significant trees, 32 are considered to be Exceptional per City of Seattle Director's Rule 16-2008. Existing trees would be retained as possible along the northern edge of the CSE II building to create a buffer between the new building and the adjacent University of Washington Club.

Approximately 56 existing trees would be removed as part of development under Alternative 3 – Scenario 3.1, including approximately 28 significant trees and 17 Exceptional trees. Under Alternative 3 – Scenario 3.2, approximately 27 existing trees would be removed, including approximately 8 significant trees and 13 Exceptional trees. As part of development under Alternative 3, new replacement trees would be planted on the site to replace the existing trees that would be removed during construction. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on-campus in accordance with typical University procedures. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

Utilities

Stormwater – Under Alternative 3, development of the CSE II Project on Site 14C would route stormwater to a University-owned eight-inch stormwater main that is located to the west of the side of the site (within Stevens Way or Jefferson Road); this main eventually discharges to Lake Washington.

Per City of Seattle requirements, Green Stormwater Infrastructure (GSI) would be incorporated into the project as appropriate to mitigate the effects of new impervious surfaces on the site. Potential GSI features could include green roof space, stormwater planters, porous pavements, or rainwater collection/re-use.

Water - Domestic and fire protection water service would be provided from the existing University-owned water mains to adjacent to the site (below Stevens Way or Jefferson Road). The proposed CSE II Building would require a four-inch domestic service water line and a six-inch fire protection service lines. Water meters and backflow prevention devices would be installed within the building per University of Washington standards.

Sewer – New side sewer connections would be provided for the CSE II Building and would be connected to the existing University-owned sewer main located to the west of the site (below Stevens Way or Jefferson Road).

Electrical, Telecommunications and Other Utilities – Electrical power, telecommunications and other campus utility services (steam and chilled water) would be provided from the existing mains within the campus utility tunnel below the project site. Natural gas service for the CSE II Building would be available from an existing University-owned main below Stevens Way.

Construction Activities/Schedule

Existing uses on the Alternative 3 site would be removed as part of the construction activities for the CSE II Building, including the existing two-story University Facilities Building, the two-story University Facilities Services Administration Building, and the two-story University Facilities Plant Operations Annex Buildings (Buildings 1 through 6). Existing pavement on the site from Snohomish Lane, walkways and other paved areas would also be demolished and transported from the site to a permitted regional recycling facility.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Due to the nature of the building being partially buried into the hillside at the basement level, the CSE II Project would require minor regrading, as well as areas of cut and fill. Construction of the proposed project under Alternative 3 would require approximately 7,500 cubic yards of cut/excavated materials and approximately 350 cubic yards of imported fill material. Due to site soil conditions, it is anticipated that none of the cut/excavated material would be used a project fill material.

It is anticipated that construction activities would begin in September 2016 and that the proposed building would be operational by September 2018.

Consistency with CMP-Seattle 2003 for Site 14C

As described in Section 2.2, the *CMP-Seattle 2003* includes specific policies and guidelines related to Development Site 14C, including: take advantage of views; construct a pedestrian bridge to the East Campus that connects to the north of the IMA; provide a new east-west walkway through the site; provide a north-south walkway through the site; and, develop a courtyard to link pedestrian pathways.

The design for the CSE II Project under Alternative 3 responds to those policies and guidelines for the site by maintaining views of Lake Washington from the University of Washington Club and providing views to the east from upper levels of the CSE II Building. The existing north-south walkway would be maintained through the site and enhanced with a new sidewalk. An entry courtyard would be provided along Stevens Way NE to serve as an entrance to the building and link pedestrian pathways. However, a new east-west walkway and new pedestrian bridge to the East Campus would not be provided as part of the CSE II Project under Alternative 3.

Alternative 4 – No Action Alternative

Under Alternative 4 – No Action Alternative, the proposed CSE II Project would not be constructed and the existing uses on the site would remain (More Hall Annex on Development Site 16C and University Facilities Buildings and Plant Operation Annex Buildings on Development Site 14C). The CSE Program would continue to utilize the existing Paul G. Allen Center and would likely experience capacity and facility deficiencies in the near future.

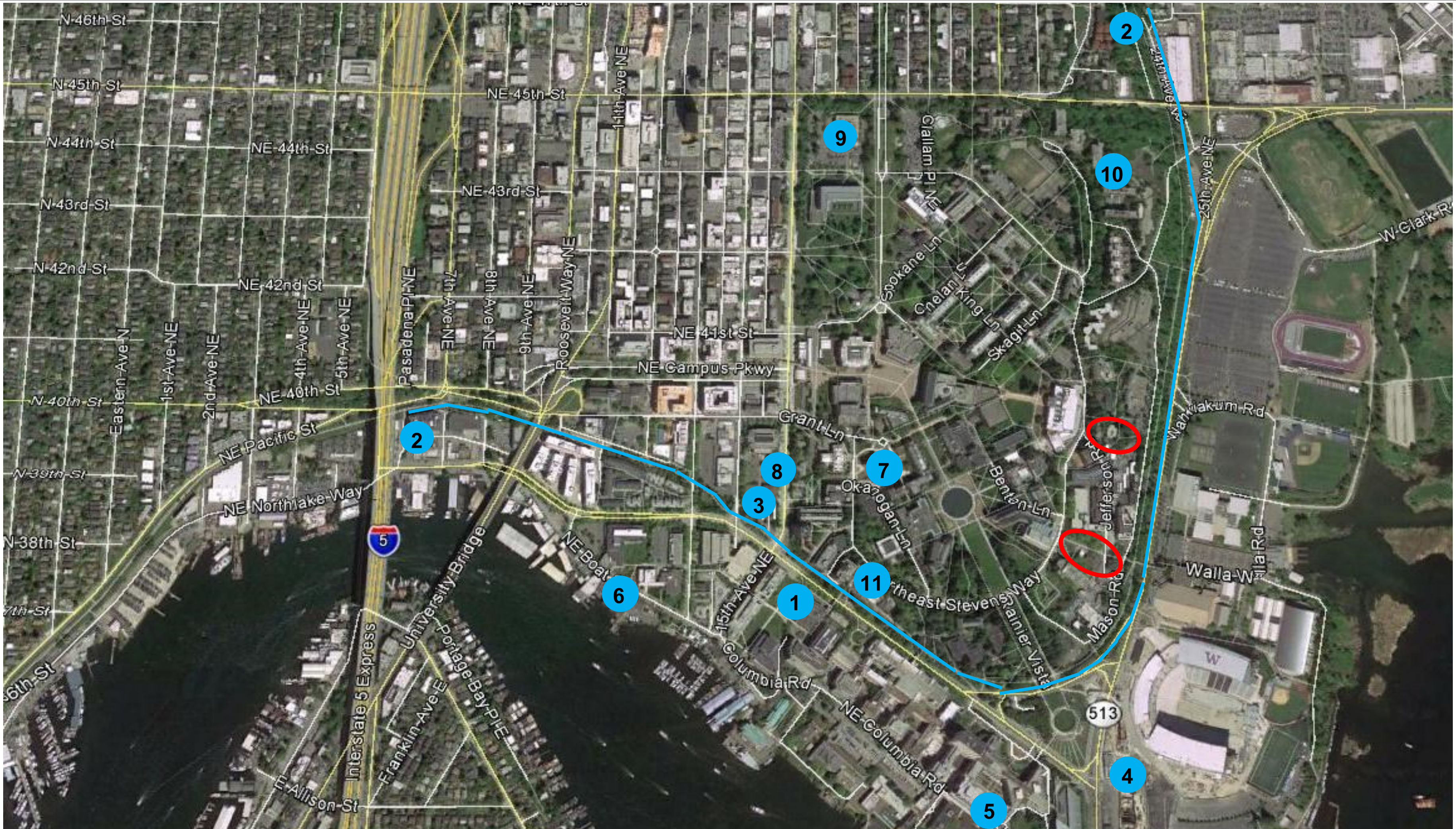
2.7 SEPARATE ACTIONS/PROJECTS

In addition to the CSE II Project, there are several separate actions/projects in the site vicinity that are currently under construction or are anticipated to be under construction during the development timeframe for the proposed project. These projects include the University of Washington New Burke Museum Project, University of Washington Police Department Project, University of Washington Animal Research and Care Facility (ARCF) Project, University of Washington Burke Gilman Trail Project, the University of Washington West Campus Central Utility Plant Project, the Sound Transit University of Washington Station Project, the University of Washington Medical Center Phase 2 Project, and the Bryant Building Park Project, the University of Washington Life Sciences Project, and the University of Washington North Campus Student Housing Project (see **Figure 2-23** for a map of the separate action/project locations).

- The **University of Washington New Burke Museum Project** will be located on the site of the existing Burke Museum and will include the construction of a new, approximately 105,387-square foot museum building. Construction will occur on the western edge of the site to allow the existing museum to remain open until the new building is completed. Once the new building is complete the existing museum will be demolished to accommodate the remaining site development (i.e., Burke Yard, parking, landscaping, and open space and pedestrian pathways). Construction is dependent on state and donor funding. The earliest construction could begin is July 2016 and the earliest construction completion by January 2018.
- The **University of Washington Police Department Building Project** will be located south of Gould Hall and will consist of a three-story, approximately 29,241-square foot of building. The proposed building will provide space for approximately 93 staff members and would include offices, a dispatch/communications center, records storage, identification lab, evidence storage, community multi-purpose rooms and fleet parking. Construction is currently underway and is anticipated to be completed in the summer of 2016.

- The **University of Washington Animal Research and Care Facility (ARCF) Project** will be located between the William H. Foege Building and Hitchcock Hall and will consist of a two-level, below-grade building with approximately 95,700 square feet of building space for research and animal housing at the University. The proposed project will include an above-grade exhaust tower, an above-grade entry pavilion, and new landscaping and pedestrian pathways to enhance the site landscape and maintain the Portage Bay Vista. Construction of this project is currently underway and anticipated to be completed in December 2016.

University of Washington Computer Science and Engineering II Project
Supplemental Environmental Impact Statement



UW CSE II Project Alternative Sites

1 UW ARCF Project
2 UW Burke Gilman Trail Project
3 UW West Utility Plant Project
4 Sound Transit UW Station Project
5 UW Medical Center Phase 2 Project
6 Bryant Building Park Project
7 UW Molecular Engineering Phase 2 Project
8 UW Police Department Project
9 UW New Burke Museum Project
10 UW North Campus Housing Project
11 UW Life Sciences Project

Source: Google Earth and EA Engineering, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 2-23
Separate Actions/Projects Map

- The **University of Washington Burke Gilman Trail Project** includes improvements to the 1.7-mile University-owned portion of the trail from Pasadena Place NE to NE 47th Street. The improvements are designed to improve safety and accommodate existing/future traffic flows and include trail widening and consolidated intersections/connections with the trail. The initial phase of the project will occur from 15th Avenue NE to Rainier Vista. Four additional phases will occur in the future, including Pasadena Place NE to University Bridge, University Bridge to Brooklyn Avenue NE, Brooklyn Avenue NE to 15th Avenue NE, and Rainier Vista to NE 47th Street. The initial phase is anticipated to be completed in spring of 2016 and construction of future phases would occur once funding is available.

- The **University of Washington West Campus Utility Plant Project** will be located to the south of the proposed Police Department Building (near the intersection of University Way NE and NE Pacific Street) and will provide process chilled water and emergency power to portions of the South and West campus. The building will be approximately 20,000 square feet and will include one below-grade level and one above-grade level. The construction period for this project is anticipated to be from August 2015 to January 2017.

- The **Sound Transit University of Washington Station Project** is located adjacent to Husky Stadium and is part of the University Link Light Rail Extension which connects the University of Washington with Capitol Hill and Downtown. The University of Washington Station consists of a single above ground entrance to connect with the light rail tunnel and will serve approximately 25,000 riders by 2030. Construction of this project is currently underway and is anticipated to be completed by March 2016

- The **University of Washington Medical Center Phase 2 Project** is located at the southern portion of the Medical Center and includes the buildout of three bed floors and the operating rooms suite within the new Montlake Tower (Phase 1) and the renovation of approximately 125,000 square feet within the existing Cascade and Pacific Towers. Construction of this project is currently underway and is anticipated to be completed by October 2017.

- The **Bryant Building Park Project** will include the development of a new park at the current Bryant Building location (adjacent to Portage Bay) to serve as a park replacement for existing park property that was converted to non-park use as part of the WSDOT SR-520 Bridge Project. Construction of this project will occur subsequent to the completion of the proposed Police Department Building Project; however, the specific timeline is unknown at this time.

- The **University of Washington Molecular Engineering Building Phase 2 Project** site is located to the north of the existing Molecular Engineering Building (east of Stevens Way and south of Grant Lane). The proposed Phase 2 building was analyzed as part of the *University of Washington Molecular Engineering Facility Supplemental EIS (2009)* and includes a six-story, approximately 78,000-square foot building with research, laboratory and faculty/staff office uses. Construction is currently undeway and is anticipated to be completed in December 2016.

- The **University of Washington Life Sciences Project** site is proposed for the southern portion of the Central Campus, adjacent to Kincaid Hall. The proposed seven level building (including two basement levels) will contain approximately 180,000 square feet of academic and research uses and approximately 20,000 square feet of green house space. The proposed building will provide space for greenhouse uses, laboratory and associated laboratory support space, classrooms, offices, conference rooms, and animal care and associated animal care support spaces. Construction is anticipated to begin in July 2016 and will be completed by July 2018.

- The **University of Washington North Campus Housing Project** site is located in the northeast corner of the Central Campus and would occur over two phases. Phase A will consist of replacing McCarty Hall with two new buildings and the demolition of Haggett Hall. Phase B will entail the construction four buildings, two on the Haggett Hall site and two on the site of the existing tennis courts. Three options for McMahon hall will be analyzed. The proposed redevelopment will result in approximately 3,200 student beds, an increase of 350 beds over existing conditions. Construction of Phase A is anticipated to begin in February 2016 and Phase B is anticipated to be completed in September 2020.

Temporary construction activity associated with any of these separate actions/projects will occur in compliance with applicable University of Washington, City of Seattle, and other relevant regulations. Significant cumulative construction-related impacts are not anticipated because each project has its own separate construction schedule and haul routes that are specific for each project site. Additionally, each project will prepare a Construction Management Plan (CMP) to control and mitigate potential transportation issues during the construction process.

2.8 BENEFITS AND DISADVANTAGES OF DEFERRING IMPLEMENTATION OF THE PROPOSAL

The benefits of deferring approval of the Proposed Action and implementation of development of the CSE II Project include the deferral of:

- Temporary and permanent displacement of existing uses (including the potential for permanent displacement of More Hall Annex) and displacement of existing vegetation on the site.

- Temporary construction-related impacts associated with vibration, noise, air pollution and traffic.

The disadvantages of deferring the approval of the Proposed Action and development of the CSE II Project include the deferral of:

- The opportunity to develop a new CSE Building to meet the current and future needs of the CSE Program.

- The opportunity to locate the proposed building in proximity to existing CSE Program uses (Paul G. Allen Center) to allow for collaboration and efficient operation of the program.

CHAPTER 3

Affected Environment, Impacts, Mitigation Measures, and Significant Unavoidable Adverse Impacts

CHAPTER 3
AFFECTED ENVIRONMENT, SIGNIFICANT IMPACTS, MITIGATION MEASURES AND SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

This chapter describes the affected environment, impacts of the alternatives, mitigation measures and any significant unavoidable adverse impacts on the environment that are anticipated from construction and operation of the Computer Science and Engineering II (CSE II) Project under the Draft SEIS alternatives.

3.1 AESTHETICS/LIGHT AND GLARE

This section of the Draft SEIS describes the existing aesthetics and light/glare characteristics of the SEIS Alternative sites (Site 16C and Site 14C) and in the vicinity of the sites, and evaluates how development of the SEIS Alternatives would affect these characteristics.

3.1.1 Affected Environment

Alternative 1 and Alternative 2 Site – Site 16C

Visual Character

The approximately 2.2-acre (97,500-square foot) Alternatives 1 and 2 site (CMP-Seattle 2003 Development Site 16C) is located in the Central Campus of the University of Washington and is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west (see **Figure 2-1** of Chapter 2 for map of the University of Washington campus).

Site 16C currently contains the More Hall Annex building, the Snohomish Lane pathway, landscaped open space areas, University Parking Areas C15 and C12, open space area, and Plant Operations Annex Building #7; the site is also bisected by Jefferson Road NE. The More Hall Annex was constructed in 1961 to serve the Nuclear Engineering Program and was designed specifically for nuclear reactor purposes. The building exhibits characteristics that are substantially different from other academic and office uses buildings on the campus. The two-story, approximately 6,700-square foot reinforced concrete structure consists of an underground main floor (spanned by four-foot wide concrete slabs resting on ten-inch thick poured beam walls) and a second floor penthouse with windows to allow views down to the reactor floor; the penthouse is the only portion visible from Stevens Way NE. A broad concrete deck surrounding the upper level penthouse was intended to allow for viewing the operating reactor.

The overall visual character of Site 16C is characterized by landscaped and paved open space and by the primarily concrete More Hall Annex which is centrally located on the site. Current views of the More Hall Annex are available from the north, south, east and west; the building is prominently visible from Stevens Way NE to the west of the site. Mature trees are located along the north and south edges of the site, and partially obstruct views of the More Hall Annex from the Mechanical Engineering Building and More Hall. Landscaped areas and pedestrian pathways are located to the west, between the building and Stevens Way NE. Snohomish Lane provides pedestrian access through the site to the east and west, and also provides partial views towards Lake Washington; however, views of the Lake to the east, are generally obstructed in the spring and summer when deciduous trees and their leaves block the majority of the view.

Surrounding Area

Site 16C is located in the Central Campus area of the University of Washington campus, which is characterized by the historic core of the University and its surrounding perimeter with a variety of uses including academic, student housing, and University support uses. Within the Original Core there are a number of significant buildings and open spaces including the Liberal Arts Quadrangle, Denny Yard, Memorial Way, Rainier Vista, Hub Yard, Parrington Lawn, and Central Plaza (see **Figure 2-3** of Chapter 2 for an aerial map of the proposed site and surrounding area).

The visual character of the area to the immediate north of Site 16C is characterized by the three-story Mechanical Engineering Building and Engineering Annex Building, the University Power Plant, Jefferson Road NE and Mason Road NE. Existing trees are located on the northern edge of Site 16C and partially screen views of the Mechanical Engineering Building. Further to the north are the two-story Loew Hall, the four-story Engineering Library, and the two-story University Facilities Building and associated annex buildings.

The visual character of the area to the east of Site 16C is defined by the Burke Gilman Trail and associated vegetated areas adjacent to the trail, Montlake Boulevard NE, and University athletic facilities (i.e., the IMA building, IMA sports fields and tennis courts, Hec Edmundson Pavilion, and Husky Stadium).

To the immediate south of Site 16C, the visual character is primarily defined the three-story More Hall Building. Further to the south are landscaped areas and pedestrian pathways, the three-story Roberts Hall and the three-story Wilcox Hall.

The visual character of the area to the immediate west of Site 16C is defined by the six-story Paul G. Allen Center Building and the six-story Electrical Engineering Building. Further to the west are Rainier Vista (a landscaped view corridor that provides views of Mount Rainier to the south), Drumheller Fountain, the four-story Chemistry Building, and the four-story Bagley Hall.

Light and Glare

Site 16C

Because the More Hall Annex building is vacant and unoccupied, the current sources of light on Site 16C are generally lower than surrounding areas. The sources of light on the site primarily include pedestrian and pole-mounted lighting adjacent to pedestrian pathways, interior/exterior building lighting associated with the Plant Operations Annex #7 Building, and street lighting and vehicle headlights along Jefferson Road NE. Lighting associated with vehicles using University Parking Areas C12 and C15 are also periodically produced on the site.

Sources of glare currently on Site 16C include the glass surfaces of the More Hall Annex and the Plant Operations Annex #7 Building. Other sources of glare on the site include vehicles travelling on Jefferson Road NE and vehicles using University Parking Areas C12 and C15.

Surrounding Area

Lighting conditions surrounding Site 16C are typical of an urban academic campus environment. Lighting conditions to the north consist of interior and exterior building lighting associated with Mechanical Engineering Building, Engineering Annex Building, and University Power Plant, and street lighting and vehicle headlights associated with Jefferson Road NE. Lighting to the east of Site 16C primarily consists of street lighting and vehicular headlights along Mason Road NE. To the south, the primary sources of light include interior and exterior building lighting associate with More Hall and vehicle headlights in University Parking Area C12 and along Mason Road NE. Lighting to the west of Site 16C primarily consists of interior and exterior building lighting associated with the Paul G. Allen Center and the Electrical Engineering Building, and pedestrian pathway lighting, and vehicle headlights associated with Stevens Way NE.

Sources of glare in the vicinity of Site 16C include roadways (Jefferson Road NE, Stevens Way NE and Mason Road NE), parking areas, vehicles and building surfaces.

Alternative 3 Site – Site 14C

Visual Character

The approximately 1.9-acre (83,500-square foot) Site 14C (CMP-Seattle 2003 Development Site 14C) is also located in the Central Campus of the University of Washington and is generally bounded by the University of Washington Club Building (formerly known as the University of Washington Faculty Club) and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the Husky Union Building (HUB) to the west (see **Figure 2-1** for map of the University of Washington campus).

Site 14C currently contains several University buildings, including the two-story the University Facilities Building, the two-story University Facilities Services Administration Building, and the two-story University Facilities Plant Operations Annex Buildings[1] (Buildings 1 through 6). These existing on-site buildings are primarily wood-framed structures; the University Facilities Plant Operations Annex Buildings have a visual character similar to portable buildings. Several pedestrian pathways are located on Site 14C and traverse through existing trees and landscaping. An internal vehicular circulation roadway is also located on Site 14C and connects University Parking Area C19 with Jefferson Road NE. University Parking Area C23 is located in the south portion of Site 14C.

The overall visual character of Site 14C is characterized by the existing wood-framed buildings that are surrounded by existing mature trees and landscaping. Site 14C slopes from west to east and views of the upper portion of the University Facilities Services Administration Building are available from the west along Stevens Way NE and from the HUB. Views from the south are available from Jefferson Road NE and include views of the existing buildings and site landscaping/vegetation. From the north, the University of Washington Club overlooks Site 14C and includes views of the existing buildings and site landscaping/vegetation, as well as views across the site towards Lake Washington.

Surrounding Area

Similar to Site 16C, Site 14C is located in the Central Campus area of the University of Washington campus, which is characterized by the historic core of the University and its surrounding perimeter with a variety of uses including academic, student housing, and University support uses (see **Figure 2-3** of Chapter 2 for an aerial map of Site 14C and the surrounding area).

The visual character of the area to the immediate north of Site 14C is characterized by the two-story University of Washington Club and the three-story Fluke Hall; University Parking Area N24 is also located adjacent to Fluke Hall. The University of Washington Club is located at a higher elevation than Site 14C and includes views across the site towards Lake Washington. Further to the north are the four-story Hall Health Building, the six-story Padelford Building, and the five-level Padelford Parking Garage.

The visual character of the area to the east of Site 14C is defined by Mason Road NE, the Burke Gilman Trail and associated vegetated areas adjacent to the trail (including large mature trees between Mason Road NE and the trail), Montlake Boulevard NE, and University athletic facilities (i.e. the IMA building, IMA sports fields and tennis courts, Hec Edmundson Pavilion, and Husky Stadium).

To the immediate south of Site 14C, the visual character is primarily defined by Jefferson Road NE, the four-story Engineering Library, the two-story University Facilities Building, and the University Power Plant. Further to the south are the three-story Mechanical Engineering

[1] The majority of the Plant Operations Annex Buildings are portable/temporary buildings.

Building and Engineering Annex Building, Snohomish Lane, and the More Hall Annex (Site 16C).

The visual character of the area to the immediate west of Site 14C is defined by Stevens Way NE and the three-story Husky Union Building (HUB). Further to the west are the HUB Yard (a landscaped open space area), and the four-story Allen Library.

Light and Glare

Site 14C

Current sources of light on Site 14C are generally consistent with the surrounding urban academic campus environment. The sources of light on the site primarily include interior/exterior building lighting associated with the existing buildings, street lighting and vehicle headlights along Jefferson Road NE, and pedestrian-scale and pole-mounted lighting along existing pathways. Lighting associated with vehicles using University Parking Area C23 are also periodically produced on the site.

Existing sources of glare on the site primarily include the glass surfaces of the existing buildings, as well as vehicles travelling on Jefferson Road NE and vehicles using University Parking Area C23.

Surrounding Area

Lighting conditions surrounding Site 14C are typical of an urban academic campus environment. Lighting conditions to the north consist of interior and exterior building lighting associated with the University of Washington Club, Fluke Hall, and parking lot lighting and vehicle headlights associated with University Parking Area C24. Lighting to the east of Site 14C primarily consists of street lighting and vehicular headlights along Mason Road NE. To the south, the primary sources of light include interior and exterior building lighting associated with the Engineering Library, Loew Hall and the University Power Plant, as well as vehicle headlights along Jefferson Road NE. Lighting to the west of Site 14C primarily consists of street lighting and vehicular headlights along Stevens Way NE, interior and exterior building lighting associated with the HUB, and pedestrian pathway lighting.

Sources of glare in the vicinity of Site 14C include roadways (Jefferson Road NE, Stevens Way NE, and Mason Road NE), parking areas, vehicles and building surfaces.

3.1.2 Environmental Impacts

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

Visual Character

Proposed Site Development

Under Alternative 1, existing uses on Site 16C would be demolished as part of the construction activities, including the existing More Hall Annex, paved pathways (including Snohomish Lane) and landscaped areas. Approximately 18 of the existing 60 trees would be removed to accommodate the construction of the CSE II Project.

The design of the CSE II Building under Alternative 1 would consist of four and a half stories (approximately 63 feet tall at its highest point) and approximately 134,000 gross square feet of building area, including approximately 109,250 square feet of above-ground space and 24,750 square feet of below-ground space.

The design of the building would create new, state of the art academic space, as well as new, modern research and instructional areas intended to allow the Program to recruit top-notch faculty and to fulfill the undergraduate student demand. The site design and location of the CSE II Building under Alternative 1 is intended to create a unified CSE Complex with the adjacent Paul G. Allen Center and allow for collaboration between the existing CSE Program spaces in the Paul G. Allen Center and the proposed CSE II Project. The design under Alternative 1 would also maintain pedestrian circulation through the site via an enhanced Snohomish Lane pathway to preserve and enhance the connection between the Central Campus and areas to the east.

The building's massing and exterior materials are intended to reinforce the contextual relationship between the Paul G. Allen Center and the CSE II Building, and remain compatible with other nearby structures. The dominant material in this location on campus is brick. The west and south portion of the building would form a conceptual "L" shaped mass which reflects the brick and proportion of openings in the Allen Center, reinforcing the pairing of the two buildings. The portion of the building facing Snohomish Lane would reinforce the connection from the interior of the building to the activity on the site. The breakdown of the massing along this edge is reflective of the program elements inside the building. The façade is expressed in a mix of glass and opaque paneling (see **Figure 2-9** of Chapter 2 for building renderings and **Figure 2-10** for building elevations of the CSE II Project under Alternative 1).

The landscape design for the proposed CSE II Project under Alternative 1 would be consistent with the University's landscape design standards and is intended to protect the existing trees on the site to the extent feasible (see **Figure 2-11** of Chapter 2). The design for the Alternative 1 site would be centered around a new outdoor plaza area that would be located between the CSE II Building and Stevens Way NE. This new plaza would help to create a unified CSE Complex with the adjacent Paul G. Allen Center. An enhanced Snohomish Lane pathway would also serve as a prominent onsite feature. The pathway would be shifted slightly north of the existing location; however, the alignment would remain similar to the historic alignment and would continue to provide an west/east visual corridor. The plaza and pathway areas would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting; new bicycle parking would also be provided along the plaza area and Snohomish Lane. The north and south edges of the site would include new landscaping and trees that would be intended to create a buffer between the new building and the existing Mechanical Engineering Building to the north and More Hall to the south.

Visual Impact

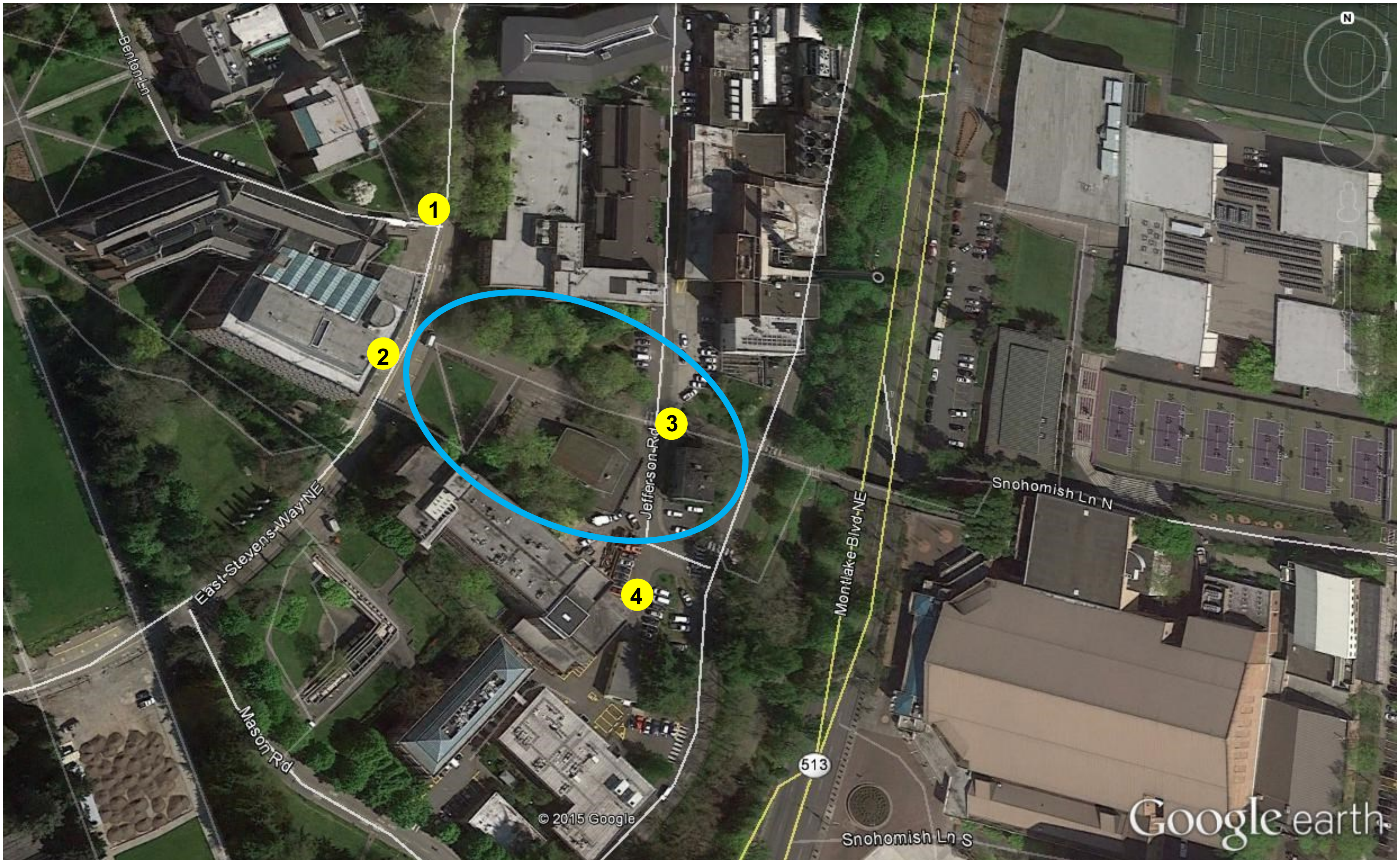
Development of the CSE II Project under Alternative 1 would substantially change views of Site 16C and would reflect a large, four and half-story academic and research facility. However, the height and scale of the CSE II Building would be consistent with the majority of the campus buildings in the area, including six-story Paul G. Allen Center Building, the six-story Electrical Engineering Building, the three-story Mechanical Engineering Building, and the three-story More Hall.

To illustrate the visual conditions of the CSE II Project under the SEIS Alternatives, visual simulations were prepared to compare the existing site conditions with the conditions that could occur with development on Site 16C. Visual simulations were completed for Site 16C from the following four locations and were based on conceptual massings of the building[2] (see **Figure 3.1-1** for a map of the viewpoint locations):

1. North of the Benton Lane NE/Stevens Way NE intersection – Looking southeast;
2. West side of Stevens Way NE (adjacent to the Paul G. Allen Center) – Looking east;
3. Snohomish Lane/Jefferson Road NE intersection – Looking west; and,
4. University Parking Area C12 (adjacent to More Hall) – Looking north.

From viewpoint Location 1 – Benton Lane NE/Stevens Way NE (**Figure 3.1-2**), the current view consists of Stevens Way NE and adjacent sidewalks in the foreground, with landscaping and trees surrounding the Mechanical Engineering Building in the mid-ground view. A portion of Site 16C is visible in the background, as well as a portion of More Hall.

[2] The conceptual building massings are intended to illustrate the building location and form and are not intended to represent specific building materials or exterior design elements.



Source: EA Engineering and Google Earth, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-1
Site 16C Viewpoint Locations

Existing Condition—Looking south on Stevens Way NE

Alternative 1

Alternative 2—Scenario 2.1

Alternative 2—Scenario 2.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-2

Site 16C Viewpoint Location 1

With development under Alternative 1 (**Figure 3.1-2**), the current foreground and mid-ground view from Location 1 would remain similar to existing conditions and include Stevens Way NE, sidewalks, trees, landscaping and the Mechanical Engineering Building. A portion of the west façade of the CSE II Building would be visible in the background beyond the existing trees, as well as the plaza area adjacent to Stevens Way NE. The west façade of the CSE II Building would generally follow a similar line as the adjacent Mechanical Engineering Building and More Hall.

Location 2 – Stevens Way NE (**Figure 3.1-3**) illustrates the existing view to the east towards Site 16C, along Snohomish Lane. The foreground view includes Stevens Way NE, Snohomish Lane, sidewalks, pathways, trees and landscaping. The background view includes More Hall Annex, trees, Snohomish Lane and the upper levels of Husky Stadium. In the fall/winter time, partial views of Lake Washington are also available from this location.

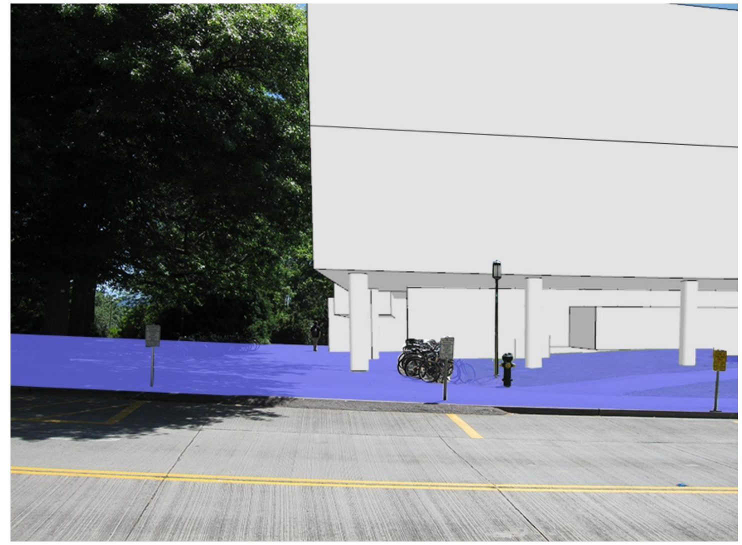
From Location 2, development under Alternative 1 (**Figure 3.1-3**) would feature the CSE II Building and plaza area prominently located in the foreground and mid-ground view adjacent to Stevens Way NE. A portion of the existing views across the site would be obstructed by the new building. However, the Snohomish Lane pathway would be shifted slightly to the north, adjacent to the north façade of the building, and would continue to provide a continuous line-of-sight visual corridor to the east of the site from this location.

From viewpoint Location 3 – Snohomish Lane/Jefferson Road NE intersection (**Figure 3.1-4**), the view illustrates the visual character looking to the west along Snohomish Lane, toward the Paul G. Allen Center. Jefferson Road NE, sidewalks and existing trees/landscaping are located in the foreground. A portion of the Paul G. Allen Center is visible in the background through the view corridor provided by Snohomish Lane. A portion of the More Hall Annex is also visible in the background, beyond the existing trees and landscaping on the site.

With development under Alternative 1, the view from Location 3 would change to reflect the CSE II Building in a prominent location in the foreground and mid-ground view (**Figure 3.1-4**). Snohomish Lane would be located to the north of the building and would create a continuous line-of-sight visual corridor to allow for background views of the Paul G. Allen Center to the west from this location (as well as views to the east), similar to the existing conditions.

From viewpoint Location 4 – University Parking Area C12 (**Figure 3.1-5**), the surface parking area, a portion of the More Hall Annex and Jefferson Road NE and visible in the foreground view. The Plant Operations Annex 7 Buildings and existing trees on Site 16C are in the mid-ground view. A portion of the Engineering Annex Building and the University Power Plant are visible in the background view.

Existing Condition—Looking east from Stevens Way NE



Alternative 1

Alternative 2—Scenario 2.1

Alternative 2—Scenario 2.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

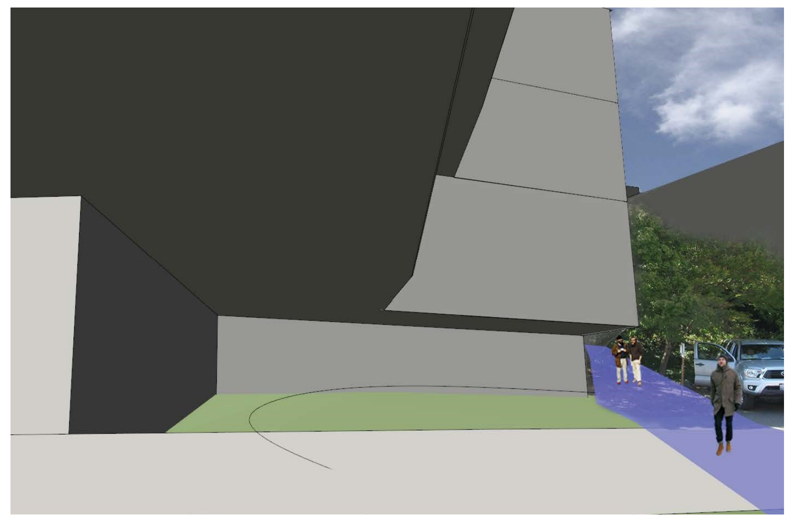
EA Engineering, Science, and Technology, Inc.

Figure 3.1-3
Site 16C Viewpoint Location 2

Existing Condition—Looking west from Jefferson Road NE

Alternative 1

Alternative 2—Scenario 2.1



Alternative 2—Scenario 2.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-4

Site 16C Viewpoint Location 3

Existing Condition—Looking north from Jefferson Road NE

Alternative 1

Alternative 2—Scenario 2.1

Alternative 2—Scenario 2.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-5

Site 16C Viewpoint Location 4

Under Alternative 1, the view from Location 4 would change to reflect a prominent view of the *CSE II Project* which would span above the Jefferson Road NE roadway (**Figure 3.1-5**). A partial view corridor would continue to be provided to the north, along Jefferson Road NE, and would provide views of Jefferson Road NE, a portion of the University Power Plant and University Facilities Buildings to the north; however, views of the Engineering Annex Building (to the west of Jefferson Road NE) would no longer be available.

Views from offices and classrooms in the adjacent More Hall, Mechanical Engineering Building, and Engineering Annex Building towards the site would also change with development of the *CSE II Project* under Alternative 1 from the existing open space and More Hall Annex Building, to a new four and a half-story, approximately 130,000 gross square foot academic building. From More Hall, the view would include the new CSE II Building, associated pathways and landscaping. From the Mechanical Engineering Building and Engineering Annex Building, the view would include Snohomish Lane, the CSE II Building, and associated landscaping.

The proposed CSE II Building under Alternative 1 would be sited in an angled manner in relationship to More Hall and Mechanical Engineering/Annex building. For example, the proposed CSE II Building would be located approximately 50 feet from the northwest corner of More Hall (at Stevens Way) and approximately 150 feet from the northeast corner of More Hall. The proposed CSE II Building would be located approximately 75 feet from the southwest corner of the Mechanical Engineering Building and approximately 125 feet from the southwest corner of the building. Given the angled relationship of the proposed CSE II Building to the existing buildings facing the site, some views to the east from existing offices and classrooms would be afforded, but not to the extent as under existing conditions.

Light and Glare

Light

Development under Alternative 1 would add new light sources to Site 16C in the form of interior and exterior building lighting, outdoor lighting for pedestrian visibility/walkways and loading functions, and vehicular traffic.

The *CSE II Project* would primarily create light from stationary sources such as exterior building fixtures, indirect light from interior building fixtures, and pedestrian scale lighting along walkways. The proposed lighting system would be designed to minimize impacts to offsite uses and enhance pedestrian circulation and safety on the site. Light fixtures would be shielded downwards to reduce light spillage and light impacts to adjacent uses. The lighting design would also comply with the City of Seattle Energy Code requirements, which include measures to minimize light pollution for the site.

It is anticipated that light emanating from the *CSE II Project* would be generally similar to that of recently constructed and renovated campus building in the vicinity including the Paul G. Allen Center, the HUB, and Molecular Engineering. The level of light from the *CSE II*

Project would also be generally consistent with that from other adjacent academic and research buildings including the Paul G. Allen Center, Mechanical Engineering Building and More Hall. The minor amount of additional vehicle traffic associated with the *CSE II Project* would generally be related to vehicle loading/unloading and deliveries and would not be anticipated to result in a significant increase in vehicular light on the site.

Glare

Solar glare would be generated under Alternative 1 from new onsite glare sources such as building surfaces (particularly windows and other reflective surfaces), paved areas, and vehicles. Building materials and lighting would be chosen to help minimize glare impacts. New landscaping and new/retained trees on the site would also help to minimize glare associated with building surfaces, paved areas, and vehicles travelling to and from the site.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Under Alternative 2, the CSE II Project would be located on Development Site 16C and would include the retention of all or a portion of the existing More Hall Annex. Given the design challenges of meeting the CSE II program goals on the site while retaining all or a portion of More Hall Annex, two design approaches are analyzed in this SEIS (Scenarios 2.1, and 2.2).

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain on the site and the CSE II Building would surround the Annex on the north, east and west sides of the More Hall Annex; approximately 30-40 feet of separation would be provided between the CSE II Building and More Hall Annex on each side.

Under Alternative 2 – Scenario 2.2, the existing More Hall Annex would be retained on the site and the CSE II Building would be constructed to the north, east and west of the More Hall Annex. The two buildings would be connected at the basement and Level 1 portion of the CSE II Building and the existing More Hall Annex space would utilized as part of the new building.

Alternative 2 – Scenario 2.1

Visual Character

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain in its current location and the four and half-story CSE II Building would be constructed surrounding the More Hall Annex on the north, east and west sides with approximately 30-40 feet of separation between the existing building and the CSE II Building above grade. The existing below grade space in the More Hall Annex would be repurposed and contain new CSE program area (see **Figure 2-12** for a site plan of Alternative 2 – Scenario 2.1).

The location of the CSE II Building under Alternative 2 – Scenario 2.1 would allow for a unified CSE Complex with the adjacent Paul G. Allen Center, similar to Alternative 1. The location and configuration of the new building ("C"-shaped upper levels) would provide a frame around the existing More Hall Annex on the north, east and west sides in order to provide a buffer between the two structures and maintain as much of the original character of the More Hall Annex as feasible. However, the location of the CSE II Building would effectively block the view of the More Hall Annex from Stevens Way to the west, Jefferson Road to the north and Mason Road to the east. In addition, the location of the CSE II Building under this scenario would also result in modifications to the alignment of Snohomish Lane through the site area which would change the visual character of Snohomish Lane. The west end of the pathway would be moved to the south to accommodate the CSE II Building. The pathway would then travel between the new CSE II Building and the retained More Hall Annex before passing back underneath the CSE II Building to reconnect with the Snohomish Lane pathway to the east. The realignment under this scenario would block the existing view corridor along Snohomish Lane toward Lake Washington.

Similar to Alternative 1, the building's exterior materials would be intended to reinforce the contextual relationship between the Paul G. Allen Center and the CSE II Project, and remain compatible with other nearby structures. However, the Alternative 2 – Scenario 2.1 building forms a "C" around the More Hall Annex to provide a buffer between the new CSE II building and the More Hall Annex. The west, north, and east façades of the new building would be designed to reinforce its relationship to the Allen Center. The inner portion of the "C" would be a mix of glass and opaque paneling.

The landscape design for the CSE II Project under Alternative 2 – Scenario 2.1 would be consistent with the University's landscape design standards and would protect the existing trees on the site to the extent feasible. Similar to Alternative 1, the design would be centered around a new outdoor plaza area on the western portion of the site to allow a unified CSE Complex with the adjacent Paul G. Allen Center. The Snohomish Lane pathway would also be realigned under Alternative 2 and serve as a prominent onsite feature. The plaza and pathway areas would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting.

Visual Impact

Similar to Alternative 1, development of the CSE II Project under Alternative 2 – Scenario 2.1 would substantially change views of Site 16C to reflect a large, four and half-story academic and research facility. However, the configuration of the building under Scenario 2.1 would be consistent with the majority of the campus buildings in the area, including six-story Paul G. Allen Center Building, the six-story Electrical Engineering Building, the three-story Mechanical Engineering Building, and the three-story More Hall. Under Scenario 2.1 the More Hall Annex would be retained on the site, but views of the Annex would be more limited when compared to the existing conditions.

To illustrate the visual conditions of the CSE II Project, visual simulations of Site 16C were completed for Scenario 2.1 from the same locations as Alternative 1 (see **Figure 3.1-1** for a map of the viewpoint locations). The existing visual conditions of each viewpoint location are also described above under Alternative 1.

From viewpoint Location 1 – Benton Lane NE/Stevens Way NE (**Figure 3.1-2**), the current foreground and mid-ground view under Scenario 2.1 would remain similar to existing conditions and include Stevens Way NE, sidewalks, trees, landscaping and the Mechanical Engineering Building. Similar to Alternative 1, a portion of the west façade of the CSE II Building would be visible in the background beyond the existing trees, as well as the plaza area adjacent to Stevens Way NE. The west façade of the CSE II Building would generally follow a similar line as the adjacent Mechanical Engineering Building and More Hall.

From viewpoint Location 2 – Stevens Way NE (**Figure 3.1-3**), the CSE II Building and plaza area under Scenario 2.1 be featured prominently on the site in the foreground view. The view of the retained More Hall Annex would be available through the plaza and beneath the CSE II Building from this location. Under Scenario 2.1, Snohomish Lane would be reconfigured and the west end of the pathway would be moved to the south to accommodate the CSE II Building. The pathway would then travel between the new CSE II Building and the retained More Hall Annex before passing back underneath the CSE II Building to reconnect with the existing Snohomish Lane pathway. Reconfiguration of Snohomish Lane under this scenario would obstruct the existing views to the east toward Lake Washington.

From viewpoint Location 3 – Snohomish Lane/Jefferson Road NE intersection (**Figure 3.1-4**), development under Scenario 2.1 would change the view substantially to reflect the CSE II Building spanning over Jefferson Road NE. Views to the west from this location would be obstructed by the CSE II Building.

From viewpoint Location 4 – University Parking Area C12 (**Figure 3.1-5**), the view under Scenario 2.1 would reflect the More Hall Annex in the foreground with the CSE II Building spanning Jefferson Road NE in the mid-ground view. Similar to Alternative 1, a view corridor to the north on Jefferson Road NE would be provided. A portion of the University Power Plant and University Facilities Buildings would be visible to the north; however, views of the Engineering Annex Building (to the west of Jefferson Road NE) would no longer be available.

Views from the adjacent More Hall, Mechanical Engineering Building, and Engineering Annex Building towards the site would also change with development of the *CSE II Project* under Alternative 2 – Scenario 2.1 from the existing open space and More Hall Annex Building, to a new four and a half-story, approximately 130,000 gross square foot academic building. From More Hall, the view would include the new CSE II Building surrounding the existing More Hall Annex. Associated pathways and landscaping would also be visible. From the Mechanical Engineering Building and Engineering Annex Building, the view would include the CSE II Building and associated landscaping; Snohomish Lane would be visible on the eastern portion of the site as it meanders between the CSE II Building and More Hall Annex.

Similar to Alternative 1, the CSE II Building would be sited in an angled manner in relationship to More Hall and Mechanical Engineering/Annex building. Given the angled relationship of the proposed CSE II Building to the existing buildings facing the site, some views to the east from existing offices and classrooms would be afforded, but not to the extent as under existing conditions.

Alternative 2 – Scenario 2.2

Visual Character

Under Alternative 2 – Scenario 2.2, the design for the CSE II Building would create a new building with program space that attempts to meet the existing and future requirements of the CSE Program and also retain the existing More Hall Annex on the site by incorporating it into the construction of the CSE II building. The More Hall Annex would remain in its current location and the CSE II Building would be constructed around and connected to the north and west sides of the More Hall Annex (see **Figure 2-15** for a site plan of Alternative 2 – Scenario 2.2).

Similar to Alternative 1, the location of the CSE II Building on the site would allow for the creation of a unified CSE Complex with the adjacent existing Paul G. Allen Center. The CSE II Building under this scenario would feature a similar configuration as Alternative 2 – Scenario 2.1 ("C"-shaped configuration on the upper levels); however, the new building would be connected to the More Hall Annex at the basement and ground floor levels and no buffer would be provided between the Annex and the CSE II Building. Similar to Scenario 2.1, development under this scenario would obstruct views of the More Hall Annex from Stevens Way, Jefferson Road and Mason Road. The location and orientation of the CSE II Building under this scenario would require the realignment of the existing Snohomish Lane pathway through the site which would change the visual character of the pathway. The west end of the pathway would be realigned at the northwest corner of the site to accommodate the CSE II Building. The path would travel along the northern edge of the CSE II Building and shift to the south along the eastern edge of the building to reconnect with the existing Snohomish Lane pathway to the east. Snohomish Lane under this scenario would result in a more circuitous pedestrian route than under the existing conditions or under Alternative 1 and would obstruct the existing view corridor toward Lake Washington.

Similarly to Alternative 1, the building's exterior materials under Alternative 2 – Scenario 2.2 would reinforce the contextual relationship between the Paul G. Allen Center and the CSE II Project, and would remain compatible with other nearby structures. Similar to Scenario 2.1, the upper levels of Scenario 2.2 form a "C" around the More Hall Annex; however, the ground level would connect to the More Hall Annex at Level 1 and attaches program space directly adjacent to the existing opening.

Landscaping on the site would be the same as under Alternative 2 – Scenario 2.1.

Visual Impact

Similar to Alternative 1 and Alternative 2 – Scenario 2.1, development of the CSE II Project under Alternative 2 – Scenario 2.2 would substantially change views of Site 16C to reflect a large, four and half-story academic and research facility. However, with the configuration of the building under Scenario 2.2, the height and scale of the CSE II Building would be consistent with the majority of the campus buildings in the area, including six-story Paul G. Allen Center Building, the six-story Electrical Engineering Building, the three-story Mechanical Engineering Building, and the three-story More Hall. The More Hall Annex would also be retained under Scenario 2.2; however, certain views of the Annex would be obstructed by the CSE II Building.

To illustrate the visual conditions of the CSE II Project, visual simulations of Site 16C were completed for Scenario 2.2 from the same locations as Alternative 1 (see **Figure 3.1-1** for a map of the viewpoint locations). The existing visual conditions of each viewpoint location are also described above as part of the discussion of Alternative 1.

From viewpoint Location 1 – Benton Lane NE/Stevens Way NE (**Figure 3.1-2**), the current foreground and mid-ground view under Scenario 2.2 would remain similar to existing conditions and include Stevens Way NE, sidewalks, trees, landscaping and the Mechanical Engineering Building. Similar to Alternative 1 and Scenario 2.1, a portion of the west façade of the CSE II Building would be visible in the background beyond the existing trees, as well as a portion of the plaza area adjacent to Stevens Way NE. The west façade of the CSE II Building would generally be located a similar distance from Stevens Way NE as the adjacent Mechanical Engineering Building and More Hall.

From viewpoint Location 2 – Stevens Way NE (**Figure 3.1-3**), the CSE II Building and plaza area under Scenario 2.2 would be featured prominently on the site in the foreground view. Due to the configuration of the building, the view of the retained More Hall Annex would be obstructed from this location. Under Scenario 2.2, Snohomish Lane would be reconfigured and the west end of the pathway would be realigned at the northwest corner of the site to accommodate the CSE II Building. The path would travel along the northern edge of the CSE II Building and shift to the south along the eastern edge of the building to reconnect with the existing Snohomish Lane pathway. Reconfiguration of Snohomish Lane under this scenario would obstruct the existing views to the east toward Lake Washington.

The view from viewpoint Location 3 – Snohomish Lane/Jefferson Road NE intersection (**Figure 3.1-4**) would be generally similar to Scenario 2.1. Development under Scenario 2.2 would change the view substantially to reflect the CSE II Building spanning over Jefferson Road NE. Views to the west from this location (towards the Paul G. Allen Center) would be obstructed by the CSE II Building. A portion of the relocated Snohomish Lane pathway would be visible to the north of the CSE II Building but would not provide views to the west due to its configuration.

From viewpoint Location 4 – University Parking Area C12 (**Figure 3.1-5**), the view under Scenario 2.1 would be generally similar to Scenario 2.1 and would reflect the More Hall Annex in the foreground with the CSE II Building spanning Jefferson Road NE in the mid-ground view. Similar to Alternative 1 and Scenario 2.1, a view corridor to the north on Jefferson Road NE would be provided. A portion of the University Power Plant and University Facilities Buildings would be visible to the north; however, views of the Engineering Annex Building (to the west of Jefferson Road NE) would no longer be available.

Views from the adjacent More Hall, Mechanical Engineering Building, and Engineering Annex Building towards the site would also change with development of the *CSE II Project* under Alternative 2 – Scenario 2.2 from the existing open space and More Hall Annex Building, to a new four and a half-story, approximately 130,000 gross square foot academic building. From More Hall, the view would include the new CSE II Building connected with the existing More Hall Annex. Associated pathways and landscaping would also be visible from More Hall. From the Mechanical Engineering Building and Engineering Annex Building, the view would include Snohomish Lane, the CSE II Building, and associated landscaping.

Similar to Alternative 1, the CSE II Building under Scenario 2.2 would be sited in an angled manner in relationship to More Hall and Mechanical Engineering/Annex building. Given the angled relationship of the proposed CSE II Building to the existing buildings facing the site, some views to the east from existing offices and classrooms would be afforded, but not to the extent as under existing conditions.

Light and Glare

Light

Similar to Alternative 1, development under Alternative 2 – Scenarios 2.1 and 2.2 would add new light sources to Site 16C in the form of interior and exterior building lighting, outdoor lighting for pedestrian visibility/walkways and loading functions, and vehicular traffic.

The *CSE II Project* would primarily create light from stationary sources such as exterior building fixtures, indirect light from interior building fixtures, and pedestrian scale lighting along walkways. The proposed lighting system would be designed to minimize impacts to offsite uses and enhance pedestrian circulation and safety on the site, and would comply with the City of Seattle Energy Code requirements, which include measures to minimize light pollution for the site.

It is anticipated that light emanating from the *CSE II Project* would be generally similar to that of recently constructed and renovated campus building in the vicinity including the Paul G. Allen Center, the HUB, and Molecular Engineering. The level of light from the *CSE II Project* and associated vehicle traffic would also be generally consistent with that from other adjacent academic and research buildings including the Paul G. Allen Center, Mechanical Engineering Building and More Hall.

Glare

Solar glare would be generated under Alternative 2 – Scenarios 2.1 and 2.2 from new onsite glare sources such as building surfaces (particularly windows and other reflective surfaces), paved areas, and vehicles. It is anticipated that glare generated by Alternative 2 would be similar to Alternative 1. Building materials and lighting would be chosen to help minimize glare impacts. New landscaping and new/retained trees on the site would also help to minimize glare associated with building surfaces, paved areas, and vehicles travelling to and from the site.

Alternative 3 – Development of the CSE II Project on Site 14C

Under Alternative 3, the CSE II Building would be located on Development Site 14C and would include the removal of the existing buildings on the site (University Facilities Buildings and Plant Operation Annex Buildings). Alternative 3 includes two development scenarios for the CSE II Building on the site. Alternative 3 – Scenario 3.1 would construct the CSE II Building as a low rise building (four stories, including a partial basement) in an east-west orientation along the northern portion of Development Site 14C. Alternative 3 – Scenario 3.2 would construct the CSE II Building as a high-rise building (seven stories, including a partial basement) with a north-south orientation along Stevens Way and Jefferson Road.

Alternative 3 – Scenario 3.1

Visual Character

Under Alternative 3 – Scenario 3.1, the CSE II Building would be constructed on the northern portion of Site 14C, between Stevens Way and Mason Road (see **Figure 2-18** of Chapter 2 for a site plan of Scenario 3.1). The design of the building would include a low-rise, four-story structure (including partial basement) with approximately 13,000 square feet of building space. Of the total building area, approximately 111,200 square feet would be considered above-ground space and approximately 18,800 square feet would be considered below-ground space. The building would be approximately 48 feet in height which would be below the 105-foot height limit established for the site under the *CMP-Seattle 2003*.

The location of the CSE II Building on Site 14C would result in a disconnect between the existing CSE Program uses in the Paul G. Allen Center and the proposed new building and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The orientation of the CSE II Building in an east-west direction along the northern edge of Site 14C would result in the building spanning the existing north-south vehicular roadway and pedestrian connection between Stevens Way, University Parking Area C19, and Jefferson Road. As a result, the proposed building height under this scenario would impact views from the existing adjacent University of Washington Club Building to the north

The exterior design of the CSE II Building under Scenario 3.1 would include materials that will complement the existing surrounding campus context. Proposed building materials include a mix of masonry, metal panel, and curtain wall. While the rhythm and arrangement of materials and openings will aim to complement the Paul G. Allen Center, the relationship of the building under Scenario 3.1 to the Paul G. Allen Center would not be apparent given that the two sites are not adjacent to one another.

Approximately 56 of the existing 108 trees would be removed to accommodate the construction of the CSE II Project under Scenario 3.1. The landscape design for the CSE II Project under Scenario 3.1 would be consistent with the University's landscape design standards and would be intended to protect the existing trees on the site to the extent feasible. The design for the site would be centered around a new entry courtyard adjacent to Stevens Way. The upper levels of the CSE II building would extend over the courtyard to create covered outdoor gathering space near the entrance to the building. The courtyard and associated pathway areas on the site would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting (see **Figure 2-24** of Chapter 2 for an illustration of the proposed landscape plan).

Visual Impact

Development of the CSE II Project under Alternative 3 – Scenario 3.1 would substantially change views of Site 14C to reflect a large, three and half-level academic and research facility. However, the height and scale of the CSE II Building would be generally similar to several of the campus buildings in the area, including the two-story University of Washington Club, the three-story Fluke Hall, the four-story Hall Health Building, the four-story Engineering Library, the two-story University Facilities Building, and the three-story HUB.

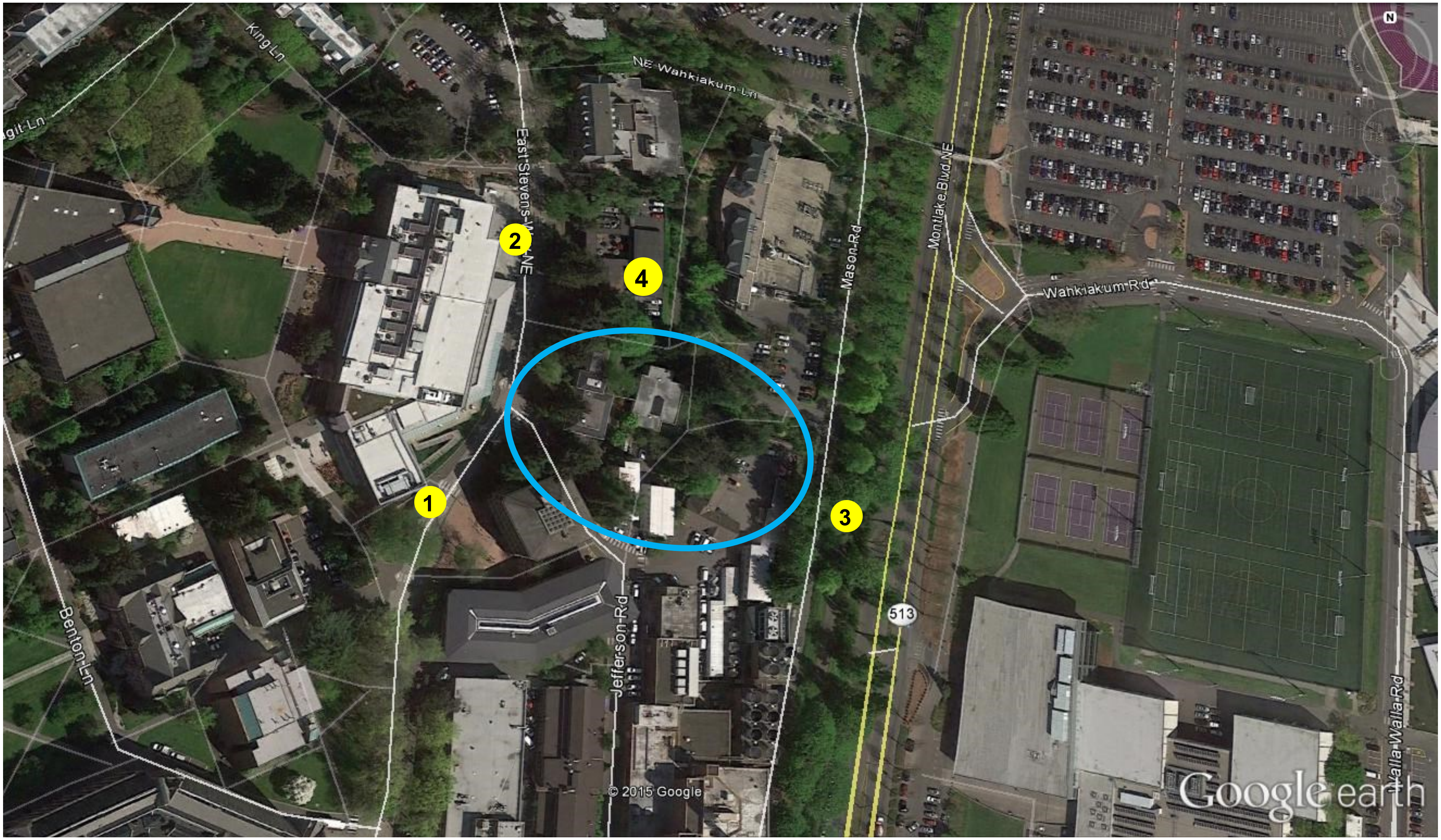
To illustrate the visual conditions of the CSE II Project under the SEIS Alternatives, visual simulations were prepared to compare the existing site conditions with the conditions that could occur with development on Site 14C under each of the Alternative 3 scenarios (Scenario 3.1 and 3.2). Visual simulations were completed for Site 14C from the following four locations and were based on conceptual massings of the building[3] (see **Figure 3.1-6** for a map of the viewpoint locations for Site 14C):

1. Southeast HUB (along Stevens Way NE) – Looking northeast;
2. Northeast HUB (along Stevens Way NE) – Looking southeast;
3. Burke Gilman Trail – Looking west; and,
4. University of Washington Club – Looking southeast.

---

[3] The conceptual building massings are intended to illustrate the building location and form and are not intended to represent specific building materials or exterior design elements.

University of Washington Computer Science and Engineering II Project
Supplemental Environmental Impact Statement



Site 14C   Viewpoint Locations

Source: EA Engineering and Google Earth, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-6
Site 14C Viewpoint Location Map

From viewpoint Location 1 – Southeast HUB (**Figure 3.1-7**), the current view consists of Stevens Way NE, adjacent sidewalks, landscaping, and the Engineering Library Building in the foreground. The HUB is visible to the west in the mid-ground view. Existing trees along Stevens Way NE are visible in the background and generally obstructed views of the Facilities Services Administrative Building on Site 14C, as well as views of the University of Washington Club.

With development under Alternative 3 – Scenario 3.1 (**Figure 3.1-7**), the current foreground view from Location 1 would remain similar to existing conditions and include Stevens Way NE, sidewalks, landscaping and the Engineering Library Building. The CSE II Building would be prominently visible in the mid-ground view and would require the removal of several existing trees on the site that were visible from this location under the existing condition. From this location, the height of the CSE II Building would appear similar to or less than surrounding buildings.

From viewpoint Location 2 – Northeast HUB (**Figure 3.1-8**), the current view consists of Stevens Way NE, sidewalks and landscaping. Portions of the existing HUB and University of Washington Club are located in the mid-ground view. Existing trees and landscaping along Stevens Way NE and portions of Site 14C are also visible in the mid-ground and background view; a portion of the Engineering Library Building is also visible in the background, beyond the existing trees.

Under Scenario 3.1 (**Figure 3.1-8**), the foreground view from Location 2 would remain similar to the existing conditions. The CSE II Building would be located prominently in the mid-ground view, along with a portion of the HUB and University of Washington Club, existing trees, and landscaping. From this location, two levels of the CSE II Building would be visible and would appear generally similar in height to the surrounding buildings.

From viewpoint Location 3 – Burke Gilman Trail (**Figure 3.1-9**), the current view consists of existing trees and vegetation along the Burke Gilman Trail and Mason Road NE in the foreground. A portion of University Parking Area N24 and adjacent vegetation/landscaping are located in the mid-ground view. A portion of Fluke Hall and existing trees on Site 14C are visible in the background view.

With development of the CSE II Building under Scenario 3.1, the foreground and mid-ground views from Location 3 would be the same as the existing conditions and include existing trees and landscaping, and portions of University Parking Area N24 (**Figure 3.1-9**). The upper portions of the CSE II Building would be visible in the background view, but would be partially obstructed by existing trees in the site vicinity; background views of a portion of Fluke Hall would also remain.

Existing Condition—Looking north from Stevens Way NE

Alternative 3—Scenario 3.1

Alternative 3—Scenario 3.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-7

Site 14C Viewpoint Location 1

Existing Condition—Looking south from Stevens Way NE

Alternative 3—Scenario 3.1

Alternative 3—Scenario 3.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-8

Site 14C Viewpoint Location 2

Existing Condition—Looking west from the Burke Gilman Trail

Alternative 3—Scenario 3.1

Alternative 3—Scenario 3.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-9

Site 14C Viewpoint Location 3

From viewpoint Location 4 – University of Washington Club (**Figure 3.1-10**), the current view consists of existing trees and vegetation on the site and surrounding areas to the east in the foreground and mid-ground view; a portion of University Parking Area N24 and Mason Road are also visible between the existing trees. Views of Lake Washington, the skylines east of Lake Washington, the SR 520 Floating Bridge, and a portion of the Dempsey Indoor Center are available in the background view. The views of Lake Washington and the skyline east of Lake Washington from this location serve as a prominent feature of the University of Washington Club.

Under Scenario 3.1, the foreground view from Location 4 would remain similar to existing conditions and would primarily include existing trees and vegetation (**Figure 3.1-10**). A portion of the CSE II Building would be visible in the central portion of the mid-ground view and would obstruct a portion of the existing background views of the Dempsey Indoor Center and the skyline to the east of Lake Washington. Background views of Lake Washington and the SR 520 Floating Bridge would remain available from this location under Scenario 3.1, but would include a portion of the CSE II Building adjacent to the view shed area.

Alternative 3 – Scenario 3.2

Visual Character

Under Alternative 3 – Scenario 3.2, the CSE II Building would be constructed on the western portion of Site 14C, adjacent to Stevens Way and Jefferson Road NE (see **Figure 2-21** for a site plan of Scenario 3.2). The design of the building under this scenario would include a high-rise, seven-story structure (including a partial basement) with approximately 130,000 square feet of building space. Of the total building area, approximately 118,280 square feet would be considered above-ground space and approximately 9,500 square feet would be considered below-ground space. The CSE II Building would be approximately 75 feet tall, which would be below the 105-foot height limit that is established for the site under the *CMP-Seattle 2003*.

Similar to Scenario 3.1, development under this scenario would result in a disconnect between the existing CSE uses in the Paul G. Allen Center and would not provide the opportunity for the same unified CSE Complex that would occur under Alternatives 1 and 2. The north-south orientation along the western edge of the site would require the realignment of the north-south roadway and pedestrian access but would not require any development over the roadway and pedestrian area. The orientation of the building on the site would also maintain the existing views from the University of Washington Club Building to the north; however, certain views from HUB to the west could be obstructed with development under Scenario 3.2.

Existing Condition—Looking east from the University of Washington Club

Alternative 3—Scenario 3.1

Alternative 3—Scenario 3.2

Note: This figure illustrates the conceptual building massing for the CSE II Building and does not represent specific design elements of the building.

Source: LMN, 2015.

EA Engineering, Science, and Technology, Inc.

Figure 3.1-10

Site 14C Viewpoint Location 4

Similar to Scenario 3.1, Scenario 3.2 would include materials that would complement the existing surrounding campus buildings. Proposed building materials would include a mix of masonry, metal panel, and curtain wall. While the rhythm and arrangement of materials and openings will aim to complement the Allen Center, the relationship of Scenario 3.2 to the Paul G. Allen Center would not be apparent given the two sites are not adjacent to one another.

Approximately 27 of the existing 108 trees would be removed to accommodate the construction of the CSE II Project under Scenario 3.2. The landscape design under Scenario 3.2 would be similar to Scenario 3.1.

Visual Impact

Development of the *CSE II Project* under Alternative 3 – Scenario 3.2 would substantially change the views of Site 14C to reflect a large, seven-story academic and research facility on the western portion of the site. The height and scale of the CSE II Building under Scenario 3.2 would be generally larger than several of the campus buildings in the area, including the two-story University of Washington Club, the three-story Fluke Hall, the four-story Hall Health Building, the four-story Engineering Library, the two-story University Facilities Building, and the three-story HUB.

To illustrate the visual conditions of the *CSE II Project* under Scenario 3.2, visual simulations of Site 14C were completed from the same locations as Scenario 3.1 (see **Figure 3.1-6** for a map of the viewpoint locations). The existing visual conditions of each viewpoint location are also described above as part of the discussion of Scenario 3.1.

With development under Alternative 3 – Scenario 3.2 (**Figure 3.1-7**), the current foreground view from Location 1 – Southeast HUB would remain similar to existing conditions and include Stevens Way NE, sidewalks, landscaping and the Engineering Library Building. The CSE II Building would be prominently visible in the mid-ground view and would require the removal of several existing trees on the site that were visible from this location under the existing condition. From this location the CSE II building would appear larger and taller than the existing HUB and University of Washington Club, but would appear to be similar in height to the Engineering Library Building due to its location farther to the east.

Under Scenario 3.2 (**Figure 3.1-8**), the foreground view from Location 2 – Northeast HUB would remain similar to the existing conditions and include Stevens Way NE and adjacent trees and landscaping. The CSE II Building would be the dominant feature in the mid-ground view, and would appear as a large, multi-story structure that would serve as a prominent feature along Stevens Way NE. The CSE II Building would appear to be larger and taller than the adjacent HUB, University of Washington Club and Engineering Library Building from this location.

With development of the CSE II Building under Scenario 3.2, the views from Location 3 – Burke Gilman Trail would be generally similar as the existing conditions and include existing trees and landscaping, portions of University Parking Area N24, and a portion of Fluke Hall (**Figure 3.1-9**). A small portions of the upper levels of the CSE II Building would be visible in the background view, but the majority of the building would be obstructed from view by existing trees in the site vicinity.

Under Scenario 3.1, the view from Location 4 – University of Washington Club would remain the same as the existing conditions (**Figure 3.1-10**). Due to the location and configuration of the CSE II Building on Site 14C under this scenario, the building would not be visible and would not affect views of Lake Washington, the SR 520 Bridge of the skylines beyond Lake Washington to the east.

Light and Glare

Light

Similar to Alternative 1 and Alternative 2, development under Alternative 3 – Scenarios 3.1 and 3.2 would add new light sources to Site 14C in the form of interior and exterior building lighting, outdoor lighting for pedestrian visibility/walkways and loading functions, and vehicular traffic.

The *CSE II Project* would primarily create light from stationary sources such as exterior building fixtures, indirect light from interior building fixtures, and pedestrian scale lighting along walkways. The proposed lighting system would be designed to minimize impacts to offsite uses and enhance pedestrian circulation and safety on the site, and would comply with the City of Seattle Energy Code requirements, which include measures to minimize light pollution for the site.

It is anticipated that light emanating from the *CSE II Project* on Site 14C would be generally similar to that of recently constructed and renovated campus building in the vicinity including the Paul G. Allen Center, the HUB, and Molecular Engineering. The level of light from the *CSE II Project* and associated vehicle traffic would also be generally consistent with that from other adjacent academic and research buildings including the HUB and the Engineering Library Building.

Glare

Solar glare would be generated under Alternative 3 – Scenarios 3.1 and 3.2 from new onsite glare sources such as building surfaces (particularly windows and other reflective surfaces), paved areas, and vehicles. It is anticipated that glare generated by Alternative 3 would be similar to Alternatives 1 and 2. Building materials and lighting would be chosen to help minimize glare impacts. New landscaping and new/retained trees on the site would also help to minimize glare associated with building surfaces, paved areas, and vehicles travelling to and from the site.

Alternative 4 – No Action Alternative

Under the No Action Alternative, development of the *CSE II Project* would not occur at this time. The existing aesthetic and light/glare conditions currently found on the site would remain.

3.1.3 Mitigation Measures

The following mitigation measures are proposed for development of the *CSE II Project*.

- The proposed design and exterior materials would be intended to complement the existing surrounding campus buildings and reinforce the connection with the existing Paul G. Allen Center to create a unified CSE Complex. However, the connection to the Paul G. Allen Center would not be apparent under Alternative 3 due to the site's location to the northeast of the Paul G. Allen Center.

- All disturbed campus landscapes would be restored to the quality of work and method of installation in agreement with long term campus plans for the area.

- New landscaping and trees would be provided as part of development to enhance the aesthetic character of the site. The University of Washington would meet or exceed the City of Seattle tree replacement standards.

- Building design would consider using the least reflective glazing material, as well as shading devices (for the building), to minimize the potential glare impacts to surrounding uses.

- Exterior building lighting and pedestrian lighting would be directed downward and away from existing buildings and spaces to minimize the impacts to nearby uses.

3.1.4 Significant Unavoidable Adverse Impacts

Development of the *CSE II Project* under each of the alternatives would change the visual character of the sites to reflect a new multi-story academic and research facility and would intensify the level of development in the area. Under Alternative 1, development of the CSE II Project would require the removal of the More Hall Annex and views of that structure would no longer remain available. Under Alternative 2, the configuration of the CSE II Project would change the configuration and aesthetic character of Snohomish Lane to reflect a path between and beneath the CSE II Building under Scenario 2.1 or around the north and east side of the CSE II Building under Scenario 2.2, and the existing view corridor to the east along Snohomish Lane would be lost. Views of the More Hall Annex would also be obstructed from north, east and west under Alternative 2. Under Alternative 3 – Scenario 3.1, views of Lake Washington from the University of Washington Club would be affected to reflect the CSE II Building located prominently in the view shed area.

New development under each of the alternatives would also introduce new sources of light and glare to the area, but with proposed mitigation measures, significant light and glare impacts would not be anticipated.

3.2 HISTORIC AND CULTURAL RESOURCES

This section of the Draft SEIS identifies historic and cultural resources on and in the vicinity of the alternative sites, and analyzes the potential for impacts associated with development of the *Computer Science and Engineering II (CSEII) Project* on alternative sites (*CMP-Seattle 2003* sites 16C and 14C) on the University of Washington's Seattle Campus. A Historic Resources Addendum (HRA) and additional historic resources background search were prepared by Johnson Partnership, and cultural resources reports was prepared by Historical Research Associates, Inc. and are summarized within this section. The full reports are included in **Appendix B** of this Draft SEIS.

3.2.1 Affected Environment

Regulatory Context

This cultural resources and architectural resources inventory is intended to identify resources that need to be considered during State Environmental Policy Act (SEPA) review, including whether the construction of the facility would impact any historic or cultural resources (listed or eligible for listing in federal, state, or local historic registers[1]) on or immediately adjacent to the alternative sites.

In addition to the mandated SEPA process, the University of Washington outlines its own process for considering the potential effects of new project planning on campus buildings and features in the University of Washington Master Plan – Seattle Campus (*CMP-Seattle 2003*). The *CMP-Seattle 2003* calls for the production of a Historic Resources Addendum (HRA) for any project that makes exterior alterations to a building over 50 years old, and this HRA will be included as an attachment to all project documentation and considered by the appropriate decision makers. The HRA provides context and analysis to insure that important elements of the campus, its historical character and value, environmental considerations, and landscape context are preserved, enhanced, and valued. The HRA further ensures that improvements, changes, and modifications to the physical environment may be clearly analyzed and documented. Consistent with the CMP-Seattle 2003 guidelines, an HRA has been prepared for the proposed site (Site 16C) and is included as **Appendix B**.

General Background

The *CSEII Project* SEIS analyzes four alternatives that include two different site locations. Alternative 1 (Preferred Alternative) and Alternative 2 are both assumed to be located on Site 16C. The approximately 2.2 acre Site 16C is located in the Central Campus, and generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south,

[1] Refer to Appendix B for discussion on the criteria for eligibility for listing on the various historic registers.

and Stevens Way NE to the west. Alternative 3 is assumed to be located on Site 14C, an approximately 1.9-acre location also in Central Campus. Site 14C is generally bounded by the University of Washington Club Building (formerly known as the University of Washington Faculty Club) and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west (see **Chapter 2** for more detailed information regarding the SEIS alternatives).

The following provides information on the architectural and cultural resources context of the University of Washington campus.

Cultural Resources

Archaeological and historical evidence indicates that Native Americans moved into the area at the close of the last ice age, occupying Western Washington for at least the last 11,000 years. More evidence is available for occupation after about 5,000 years ago and especially for the last 2,500 years when populations apparently increased and large, permanent villages were inhabited. The human history of the area is a response to the availability of natural resources along the rivers, streams, marshes, sloughs, prairies, and nearby coastal areas.

Prehistory

The earliest archaeological evidence of human presence in Washington State comes from Clovis fluted projectile points and stone tools dating to about 11,000 before present (BP). These tools are believed to be associated with highly mobile Paleoindian groups adapted to hunting large fauna such as mammoth and mastodon, with some reliance on plants and other animals. Clovis materials are rare in Washington, known from nine isolated finds. Other evidence for this adaptation includes the Manis Mastodon site near the town of Sequim where extinct bison and mastodon remains dating from 12,000 BP and 10,000 BP were found in possible association with cultural remains.

The Early period in Western Washington spans from approximately 8,000-5,000 BP. Artifacts are referred to as “Olcott” after the site type in Snohomish County and referred to in other areas of the country as “Old Cordilleran” or “Early Lithic”. The distinctive Olcott stone tool assemblage consists of large, leaf-shaped and stemmed points, and cobble and flake tools, often made of heavily weathered volcanic rock like dacite or basalt. Sites with Olcott assemblages, which generally lack organics and features, are usually found inland on raised terraces where human occupation likely became established as landforms stabilized during the middle Holocene.

The Middle period in Puget Sound prehistory, from approximately 5,000-2,500 BP, is characterized by increasing populations with more complex socio-economic organization and evidence for greater reliance on marine and riverine resources. Marine resource use may extend back further in time; however, earlier shoreline sites would have been inundated by rising sea levels which reached near-modern elevations by about 5,000 BP. Middle period sites yield more stone and bone tools in addition to chipped stone tools. The developing importance of woodworking is evident in the presence of tools such as adzes, wedges, and mauls. A diversification of economic pursuits in this period is indicated by sites in a variety of environmental settings and common finds of the remains of sea mammals, fish, and shellfish.

The Late period of the last 2,500 years in the Pacific Northwest is marked by sites and assemblages that indicate development of craft specialization and a significant concentration of wealth, both traits being representative of the "classic" Northwest Coast cultural complex. Of note are abundant shells, and increase in art objects and status markers, and a large variety of tools including ground slate knives and points, celts, and bone harpoons and points. The seasonal use of resources and locations continued, and permanent and semi-permanent winter villages were established. Archaeological sites of the Late period provide evidence of subsistence and settlement patterns including hunting, fishing, woodworking, and plant processing.

Native Americans

The site area was formerly occupied by the Duwamish, a Lushootseed speaking group who inhabited all of present-day Seattle and Renton, and who occupied villages along the shorelines of Lake Union, Lake Sammamish, Lake Washington, Elliott Bay, Shilshole Bay, and the Duwamish, Black, and Cedar Rivers. The Duwamish maintained close ties with neighboring groups, including the Snoqualmie, Suquamish, Puyallup, and people living on the Upper Green and White Rivers. Known as the *xa'tcoabc* (lake people), the Lake Washington people were considered by some to be intermediate between the Duwamish and Snoqualmie.

Recorded place names indicate native presence in the project vicinity, as well as, through the environs of greater Seattle. East of the project area, longhouses of the group living at *SWAH-tsu-gweel* on the shore of Union Bay near the present day University of Washington campus marked the eastern end of an important portage route that led to salt water. An "Indian trail" marked on the 1856 land survey map is shown from the northwest side of Union Bay and entering Portage Bay on the east side just south of the project area. Another trail farther south connects the lower end of Union Bay with the southern end of Portage Bay and continues across the terrain to reach the east side of Lake Union, crossing land again in the vicinity of today's Gaswork's Park.

There are references in the literature to Native American names for features in the site vicinity. *Baqwob* referred to a prairie or open space north of Portage Bay. *Waq*^{3}*e'q*^{3}*ab* from the word for frog, was a small creek that entered Lake Union just east of today's Interstate 5 Bridge. A small promontory, Sqwitsqs, jutted into Lake Union where the University Boat Club once stood. SS*lu?wi't* referred to a creek passage from the north shore of Union Bay through the marsh lying between Webster Point and the buildings of the University. It may have been the location of a fish trap. In Union Bay on today's Foster Island, the Duwamish had a burial ground, *Stitici*, where the dead were placed in boxes placed up in the branches of trees. Other places were noted in the vicinity of Webster Point, Sand Point, and Laurel Point.

The annual cycle of activities was based on the availability of resources in different seasons and varied environments. In spring and summer, traveling along trails or by dugout canoe, small groups set up temporary camps to fish, hunt, harvest shellfish, and gather berries, roots, bulbs, and other plant resources. Salmon and shellfish, especially clams, formed the most important part of their diet. Other resources included freshwater fish caught in the lakes and streams throughout the area; deer, bear, and small mammals hunted in the valleys, uplands, and lake shores, waterfowl found on the numerous waterways; and, marine resources including sea mammals, clams, crabs, shrimp, oysters, mussels, and other invertebrates found along the coast.

The Duwamish spent the winter months in cedar plank houses built along shorelines and riverbanks living on the salmon, clams, berries, roots and other foods they had preserved by smoking or drying and tending to social relationships through visiting, trading, and engaging in festivities and ceremonies. The Duwamish were linked by marital ties as well as by shared use of some resource areas with the Suquamish to the west, Snohomish to the north, Snoqualmie to the east, and with groups on the White and Green Rivers to the south now collectively referred to as the Muckleshoot.

The Duwamish maintained friendly relations with Seattle pioneers, providing them with labor, salmon, shellfish, baskets, and other resources, and continuing to live among them in spite of treaty-era tensions and diminishing means of pursuing a traditional lifestyle. The last Duwamish natives known to live in the project vicinity were Cheshiahud (also known as Lake John), a canoe maker and lake guide who lived with his family at the foot of today's Shelby Street on Portage Bay until about 1900. Formerly the leader of a village on Lake Union, he and his family lived on a small piece of land with a cabin and potato patch. He is believed to have moved to the Suquamish Reservation following the death of his wife Madeline. A trail recently opened around Lake Union was named the Cheshiahud Lake Union Loop Trail in honor of the association of Duwamish natives with the area.

Today many people of Duwamish decent live among the Muckleshoot, Snoqualmie, Suquamish, and Tulalip Tribes, as a result of the 1854-1855 treaties that led to the creation of area reservations and to shifts in settlement and inter-group relationships. Others continue to seek independent Duwamish tribal status.

Historic Context

The University of Washington was established by the State Legislature in 1861, as the first public university in the state. It was sited on a ten-acre parcel of land in what is now downtown Seattle. In 1895, the campus was moved to its present site, and the University Regents sought some type of campus plan to guide the location of future buildings. In 1898, engineering professor A.H. Fuller developed a plan known as the Oval Plan.

In 1903, the Board of Regents hired the Olmsted Brothers renowned landscape architects, to prepare a design for a general campus plan. However, this 1904 Olmsted Plan was never realized, and the present campus plan descends from the Olmsted's Beaux-Arts design for the Alaska Yukon Pacific Exposition (AYP) of 1906. The AYP grounds reverted back to the University in 1909, providing the central axis of Rainier Vista and an emphasis on landscaping. Cunningham Hall, the Auditorium (which became the original Meany Hall), the Machinery Building, the Washington Building, the Arctic Brotherhood Building, the Forestry Building, and the Fine Arts Building are the seven permanent buildings retained after the fair.

Henry Suzzallo was the University of Washington's fifteenth president with a tenure lasting eleven years (1915-1926), and he worked closely with architect Carl Gould in the physical planning of the campus and its buildings. The Regents Plan of 1915, adopted during Suzzallo's first year as president, became the University's guiding planning document. It reaffirmed the Olmsted's AYP grounds and proposed grouping Liberal Arts programs on the upper campus, administrative and library facilities at its core on the Central Quadrangle, and the Science programs along Rainier Vista and the southern portion of Stevens Way. The plan placed Suzzallo Library clearly beside the intersecting axis from Liberal Arts Quadrangle and Rainier Vista, and the main axis of the Science Quadrangle. Major athletic facilities were later located along the eastern edge of the campus near Lake Washington. This plan served as the basis for subsequent construction, and set the Collegiate Gothic character for architectural design.

Planning for the Magnuson medical complex began directly after World War II on the site of the former golf course and training facilities. University enrollment swelled at the end of the war, and in 1949, the University opened the Health Sciences Building, the first of its sprawling medical complex. In 1959, the University Hospital was opened. The complex was renamed the Magnuson Health Sciences Center in 1978, when it was approximately a third of its current size.

Other buildings on the campus that were constructed after World War II were designed in a variety of Modern styles that emphasized new materials and expressive structural qualities. In the 1950s, a University Architectural Commission was established and a University architect appointed. Collegiate Gothic was replaced by modern architecture as the preferred style for new buildings. The 1962 General Development Plan was prepared by the University architect, with input from consultants including alumnus Paul Thiry.

While development in the southern campus was still sparse, the NPRR, owners of the segment of line within the campus, continued heavy use of the line until 1963. The NPRR merged with two other railroad companies, Burlington and The Great Northern, in 1970, and the new company, the Burlington Northern Railroad, abandoned the line that would become the Burke-Gilman Trail in 1971. The first section of the line to be paved and turned into the Burke-Gilman Trail connected Gas Works Park within Tracy Owen Park in Kenmore.

History of Nuclear Research on Campus

On December 2, 1942, in the midst of World War II, a team of scientists headed by Dr. Enrico Fermi achieved the first known controlled nuclear chain reaction at the University of Chicago. This new technology was further developed by the United States, allowing the United States to employ nuclear weapons in the Pacific Theater, specifically on the Japanese cities of Hiroshima and Nagasaki in 1945. After World War II, the Atomic Energy Commission was created to continue atomic energy research, and the development of practical applications. The Hanford Reservation in southeastern Washington was part of the World War II Manhattan Project that developed the first nuclear explosive device, and the site of the world's first full-scale plutonium production reactor.

The University of Washington College of Engineering began offering nuclear engineering classes in 1953, and in 1958, granted its first Master of Science in Engineering focusing on nuclear engineering. This program was run through the Graduate School of the College of Engineering until the Nuclear Engineering Department was founded in 1965. The Dean of the Engineering College at the time was Dr. Harold Wessman, an advocate for the formation of the Nuclear Engineering program with a research nuclear reactor building on the campus.

Construction of the More Hall Annex building was completed in early 1961 and in April of that year the nuclear reactor reached criticality (the point in an intensifying nuclear reaction at which it becomes self-sustaining). During the 1960s there was a joint research project with the Critical Mass laboratory in Hanford, WA, supervised by Bob Albrecht, which studied the material amounts needed to facilitate chain reactions. Declining interest in nuclear power research led to a decline in enrollment, and by 1989, the department had only 18 students. The department was dissolved in 1992, and the eight faculty members returned to their home departments of electrical, chemical, mechanical, and aeronautical engineering. Between its inception in 1965 and 1992, the department granted approximately 300 graduate nuclear engineering degrees.

In 1999 the fuel rods from the nuclear reactor were removed from the More Hall Annex building and transported to Hanford, Washington, effectively initiating the decommissioning of the building. Decommissioning of the building involved stripping of porous interior finishes to remove possible radioactive substances, removal of wood-framed partitions near the reactor, and removal of the reactor itself. All mechanical systems, including HVAC equipment and electrical systems were removed. The Nuclear Regulatory Commission (NRC) issued a decommissioning certification on May 21, 2007.

Historic Resources (Buildings and Spaces)

The following provides detail on architectural resources on the site and in the site vicinity.

Site 16C

Buildings and features on Site 16C that are over 50 years of age and/or have the potential for historic significance including More Hall Annex, Plant Operations Annex 7 and Snohomish Lane. A brief discussion on these buildings and features is provided below. Refer to **Appendix B** for additional detail.

More Hall Annex (1961)

More Hall Annex

The More Hall Annex building is located in what is considered the east-central segment of the University of Washington's Seattle campus. The building lies in a cluster of multi-story academic buildings roughly between the Drumheller Fountain on the west and the Edmundson Pavilion down slope to the east. The site is adjacent to More Hall (1946) to the south and the Mechanical Engineering Building (1959) and Engineering Annex (1909) to the north.

The More Hall Annex site is primarily shaped by Stevens Way East on the west, a steep slope to the east, the adjacent More Hall to the south, and the Mechanical Engineering Building and Engineering Annex to the north. This orientation creates an expanding eastward view from Stevens Way toward the University's athletic complex, lake Washington, and the Cascade Mountains. Access to the site is primarily from Stevens Way via a concrete walkway which is flanked by lawn to the south and landscape planting beds to the north.

A vista overlooking the Edmundson Pavilion (1928), Husky Stadium (1920), Lake Washington, and the Cascade Mountains opens up across the site as the subject site and land eastward of the site slope downward. Pathways through the site provide access over a former railway right-of-way (Burke Gilman Trail) to the southernmost of the three pedestrian overpasses over Montlake Boulevard NE, a major north/south arterial separating the main campus from the lower eastern campus athletic facilities.

In the late 1950s, the design of a research reactor at the More Hall Annex site was initiated to supplement the nuclear engineering program at the University of Washington. The University commissioned a team of architects, an engineer, and an artist, to design the new facility; collectively known as The Architect Artist Group (TAAG).

The More Hall Annex building can be considered a Brutalist design; a design style intended to provide an architectural statement of the possibilities inherent with concrete construction. This style developed in the early 1950s, with the philosophic intent to show how buildings worked. The structure, shell, and heating and ventilation systems were to be visible. The Annex is a two-story building constructed of reinforced concrete. A larger, partially earth-sheltered main floor supports a smaller second-floor penthouse, essentially the only portion of the building visible from Stevens Way. The lower, main level is rectangular, measuring approximately 70 feet wide in the north/south direction by approximately 75 feet in the east/west direction. The western portion of this floor is buried into the sloping site and originally contained the nuclear reactor room. The eastern portion of the floor contained a variety of areas, including experiment area, a graduate room, a calculating room, an office and an electronic shop.

The reactor was designed with large moveable blocks, painted in primary colors, and used as shields. The building itself was arranged in a ways so that the interior was highly visible. The reactor blocks were painted various bright colors (blue, yellow, and red) to indicate different radioactive qualities, and create a consistently changing pattern while the blocks were positioned for different experiments. The design intent of the building was for all concrete to remain unfinished; after the buildings completion in 1961, however, the large transverse haunch beam and the roof channel sections were painted white at the request of the University president.

The More Hall Annex building was one of approximately 76 educational nuclear reactors constructed in the United States, and although contributing to the understanding of the development of nuclear energy for peaceful purposes, the building does not possess a unique association with this aspect of our historic heritage. The Washington State Department of Archaeology and Historic Preservation (DAHP) placed the More Hall Annex on the Washington Heritage Register in October 2008. In September 2009, the National Park Service listed the building in the National Register of Historic Places.

As indicated above, the More Hall Annex was designed specifically for nuclear reactor operations and nuclear education purposes, and exhibits characteristics that are substantially different from other academic and office buildings on campus. The building has not been found suitable for other academic or student support uses and the building has remained vacant since approximately 1992 (and/or since the NRC issued a decommissioning certification in May 2007).

Other Buildings

Plant Operations Annex 7

The site also contains the Plant Operations Annex 7 building. This two-story wood-frame building of approximately 600 square feet was originally constructed in approximately 1994 for University physical plant support services. This building does not quality for listing in historic registers because it is less than 50 years of age and does not qualify for nomination as a City landmark because it is less than 25 years of age.

Snohomish Lane (1909)


Snohomish Lane

Snohomish Lane is a concrete walkway leading down from E Stevens Way to a concrete pedestrian overpass providing access over Montlake Boulevard to the lower campus's athletic facilities. The walkway is located north of the center of the site and includes wide concrete stairways.

Snohomish Lane dates from the 1909 AYPE. It was originally called Dalton Avenue, providing access from the center of the fair's Arctic Circle fountain, down to the "park" near where the Edmundson Pavilion is presently located. The exact alignment did not occur until the stadium overpass was built in 1938. The portion of Snohomish Lane located on the site reflects a continuous line-of-sight from the western to eastern edges of the site.

Site 16C Vicinity

Buildings over 50-years old in the immediate vicinity of Site 16C include: Mechanical Engineering, Mechanical Engineering Annex. More Hall, and the Power Plant. Brief discussion on the historic characteristics of these buildings is provided below.

Mechanical Engineering Annex (1909 - 1966)


Mechanical Engineering Annex

Originally referred to as the Foundry Building, the Mechanical Engineering Annex is one of the few remaining buildings on campus constructed during the 1909 AYP Exposition. This heavy-timber, wood-framed and brick masonry building was constructed for the 1909 AYP Exposition from designs prepared by G. Washington Place. The building was remodeled in 1920, by additions to both the northern and southern ends. In 1961, the building was again remodeled by the insertion of a full and partial level of offices on the northern portion of the building. A previously prepared historic resource addendum indicated that the Mechanical Engineering Building has some historic significance and is considered eligible for listing in an historic register (refer to **Appendix B** for detail).

Mechanical Engineering Building (1959)


Mechanical Engineering

The Mechanical Engineering Building was constructed in 1959, from designs prepared by the architectural firm of Carlson, Elley & Grevstad. The Mechanical Engineering Building replaced the former Machinery Building constructed for the AYP. The Mechanical Engineering Building is four stories in height and constructed with brick cladding with cast stone accents around windows and entries. The building can be considered to be designed in the modern/Institutional style. As part of a previous survey by the State DAHP, it was determined that the Power Plant is not eligible for listing in historic registers (refer to **Appendix B** for detail).

Power Plant (1909)

Power Plant

The University's Central Power Plant was originally constructed in 1909 for the AYPE. A large masonry smoke stack was added in 1923. The Plant Operations Building was built north of the Power Plant in 1929. Since then, there have been many alterations and additions to the facility eventually extending northward and incorporating the Plant Operations Building. The large smokestack was replaced in 1988. As part of a previous survey by the State DAHP, it was determined that the Power Plant is not eligible for listing in historic registers (refer to **Appendix B** for detail).

More Hall (1946)

More Hall was designed by the architectural firm of Bebb and Jones, in association with Leonard Bindon, and constructed in 1946, with a major addition added to the western side in 1948. This concrete and masonry Modern style building ranges in height from one to three stories. The northern entry features a pair of aluminum and glass doors with a cast stone surround ornamented by aluminum artwork by sculptor Dudley Pratt. As part of a previous survey by the State DAHP, it was determined that More Hall is eligible for listing in historic registers (refer to **Appendix B** for detail).

More Hall

Site 14C

Buildings and features on Site 14C that are over 50 years of age and/or have the potential for historic significance include the Facilities Services Administration Building, Plant Operations Annex 4, and Plant Operations Annex 2. Several newer buildings are also located on the site. A brief discussion on these buildings is provided below.

Facilities Services Administration Building (1909, 1941)

This building contains approximately 10,303 square feet on two levels. It incorporates a building designed by James C. Teague as the Michigan Club Building for the 1909- AYPE. The building was originally of frame construction with a stucco exterior. After the AYPE, the building was renamed the Chief Engineer's Residence.

The building has been extensively altered over the years as its use was shifted to University physical plant support services. It was remodeled in 1941, and expanded in 1957, with further remodeling and expansions in 1961 and 1963. Although the building has association with the AYP, it is concluded that the building does not qualify for listing in historic registers given sever loss of physical integrity, including loss of all interior features, relocation and replacement of all glazing and doors, and removal of all stucco and the application of horizontal siding.

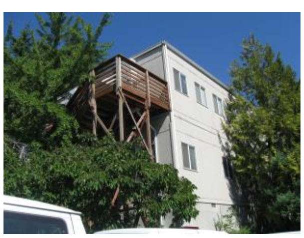
Facilities Services Administration Building

Plant Operations Annex 4 (1909)

This two-story frame building contains approximately 8,525 square feet and was constructed in 1909. The Seattle architectural firm of Saunders and Lawton designed it as a dairy barn for the AYPE. Part of the building was used as housing until the 1920s, before it was converted to storage and garages. It was called various names and served several utility uses since. The building was completely remodeled in 1939, and has had many other alterations since then. The building, however, appears to retain its original "L" shaped form with intersecting gable roof, horizontal cedar drop siding and some original wood-sash double-hung windows. Some exterior doors have been filled-in with plywood siding and some minor additions have been made to the exterior. As part of a previous survey by the State DAHP, it was determined that this building is not eligible for listing in historic registers (refer to **Appendix B** for detail).

Plant Operations Annex 4

Plant Operations Annex 2 (1947)



Plant Operations Annex 2

This two-story wood-frame building of approximately 546 square feet was originally constructed in 1947. The building has been significantly altered with new plywood siding and replacement glazing. Its original use was for University physical plant support services. It is concluded that the building does not qualify for listing in historic registers due to severe loss of physical integrity.

Other Buildings

Plant Operations Annex 3 (1966) - This one-story wood-frame and steel-tube shed-roof building was originally constructed in 1966 as a garage/storage building. It contains approximately 1,745 square feet of space.

University Facilities Building (1982) - This one-and-a-half-story wood-frame flat-roof building was constructed in 1982 as an administrative support building for the University. It contains approximately 6,340 square feet of space and has a daylight basement on its eastern side.

Plant Operations Annex 5 (1985) - This wood-frame former greenhouse is now used for incidental storage. The structure was constructed in 1985, and contains approximately 485 square feet.

Plant Operations Annex 6 (1990) - This two-story wood-frame building of approximately 1,745 square feet was originally constructed in 1990 for University physical plant support services.

Plant Operations Annex 1 (1990) - This two-story wood-frame building of approximately 1,745 square feet was originally constructed in 1990 for University physical plant support services.

Site 14C Vicinity

Buildings over 50-years old in the immediate vicinity of Site 14C include: University of Washington Club, Power Plant and Plant Operations Building, and Husky Union Building. Brief discussions on the historic characteristics of these buildings are provided below.

University of Washington Club (1960)

University of Washington Club

This building was constructed in 1960 as the University's Faculty Club, from designs prepared by Seattle architects Paul Hayden Kirk & Associates with Victor Steinbrueck. It replaced the former Hoo Hoo House, designed by architect Ellsworth Storey for the AYPE. The Faculty Club is considered a hallmark of the Pacific Northwest regional Modernism interpreted in steel and glass. It has generous eastern glazing offering near and distant vistas toward the lower campus, the Cascade Mountains, and the Evergreen Point Floating Bridge. Renovations designed by Victor, Eckbo, Dean and Williams were subsequently implemented. The University of Washington Club was placed in the National Register in November 2009.

Power Plant (PWR) and Plant Operations Building (1960)

The University's Central Power Plant was originally constructed in 1909 for the AYPE. A large masonry smoke stack was added in 1923. The Plant Operations Building was built north of the Power Plant in 1929. Since then, there have been many alterations and additions to the facility eventually extending northward and incorporating the Plant Operations Building. The large smokestack was replaced in 1988. As part of a previous survey by the State DAHP, it was determined that the Power Plant is not eligible for listing in historic registers (refer to **Appendix B** for detail).

Husky Union Building (HUB)(1949)

HUB

The HUB was originally constructed between 1949 and 1952, from plans prepared by the Seattle architectural firm of Bebb and Jones. It occupies the site of the AYPE's rustic Forestry Building. It was updated in 1959, under the direction of Bindon, Tucker & Shields, and expanded southward with a folded-plated roof addition in 1963, from designs prepared by Bindon and Wright. Copland, Vaughan & Nordfors designed an eastern cafeteria addition that was constructed in 1977. Recently a major addition and renovation was completed by the University in 2015, under designs prepared by the Seattle architectural firm of Perkins + Will. Previous historic surveys of the HUB have determined that the building is not eligible for listing in historic registers due to loss of physical integrity.

Cultural Resources (Archaeology)

One prehistoric and three historic period sites have been recorded within 0.5 mi of both 16C and 14C Sites. The nearest prehistoric site (45KI957) is approximately 0.4 mi west of the EIS Alternative sites. It is a prehistoric scatter that consists of a side-notched chert projectile point and two quartzite flakes that were observed in an eroded slope above the Burke Gilman trail in the vicinity of the Greenhouses. **Table 3.2-1** provides a description of the previous historic eligibility findings for these resources.

Table 3.2- 1
PREVIOUSLY IDENTIFIED POTENTIAL ARCHAEOLOGICAL SITES

Site/ Isolate Number	Resource Name	Resource Type	Distance from Project Area	NRHP Eligibility Status
45KI957	UW Greenhouse	Precontact lithic scatter	~0.4 mi southeast	Not evaluated
45KI1201	University Landfill	Historic Debris Concentration	~0.3 mi east	Not evaluated
45KI952	Historic Isolate	Historic-period bottle	~0.1 mi south	Not eligible (isolated find)
45KI955	Unnamed	Historic Public Works	~0.1 mi south	Not evaluated

Source: HRA, Inc. 2015

Historic-period site 45KI1201 (University Landfill) is 166 acres of reclaimed marshland owned by the University, located approximately 0.4 mi east of both proposed sites. Garbage from the surrounding Montlake, Laurelhurst, University, and Green Lake neighborhoods was used to in-fill the marsh from 1926 to 1966. The area was subsequently capped with fill and now is used for parking and sports fields.

The historic-period isolate (45KI952), located approximately 0.1 mi southeast of Site 16C is a complete brown glass bottle, machine-made, and most likely manufactured in the 1920s or early 1930s. The bottle was observed approximately 4 ft below modern ground surface, in construction fill comprising the Husky Stadium parking lot E11. Historic-period archaeological site 45KI955, in the same vicinity, consists of an abandoned wire-wound wood stave pipeline, and associated metal pipeline. The wood stave pipe is estimated to have been installed in the early 1900s, as a part of the early Seattle sewage system (see **Appendix B** for more details concerning the inventory methodology and results).

Washington State Department of Archaeology and Historic Preservation - Predictive Model

The Washington State Department of Archaeology and Historic Preservation (DAHP) predictive model for archaeological sites is based on statewide information, using largescale factors. Information on geology, soils, site types, landforms, and from GLO maps was used to establish or predict probabilities for archaeological resources throughout the state. The DAHP model uses five categories of prediction: Low Risk, Moderately Low Risk, Moderate Risk, High Risk, and Very High Risk. The DAHP predictive model map indicated that both proposed site are located in High to Very High Risk areas for encountering archaeological sites. Historic period and modern development activities associated with the growth of the University and City of Seattle have modified and disturbed the terrain. However, the topography and location of Site 16C (Alternatives 1 and 2) makes it a very likely place for prehistoric archaeological sites. There are several Native American place names in the vicinity, and there is a recorded Native American trail crossing Site 16C. Site 16C is also near the shoreline where Native American settlements are most likely to be found.

The sloping terrain of Site 14C (Alternative 3) makes it a less likely location for archaeological sites.

3.2.2 Environmental Impacts

As noted in the *CMP-Seattle 2003*, the Regents provide stewardship for historic University properties. Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master plans.

As part of development on campus, the University assures that the preservation of historic resources is considered through the provision of a Historic Resources Addendum (HRA). An HRA is required for any project that makes exterior alternations to a building over 50 years old. The information and analysis provided in the HRA provides a framework and context to ensure that important elements of campus, its historical character and values, environmental considerations and landscape context are valued. An HRA has been prepared for the More Hall Annex and the HRA is included as **Appendix B** to this Draft SEIS.

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

The University of Washington Campus Master Plan approved by the Board of Regents and the City of Seattle in 2003 (*CMP-Seattle 2003*) contemplates demolition of More Hall Annex and development of approximately 100,000 square feet of potential above-grade building development.

Under Alternative 1, the existing uses on the site would be demolished as part of the construction activities, including removal of the existing More Hall Annex, as well as the Plant Operations Annex 7 building, pavement along Snohomish Lane and other paved areas, and landscaping.

The design of the proposed building includes a four and a half-story building, and approximately 134,000 gross square feet of academic and research uses, including space for classrooms, offices, conference rooms, research areas, administrative areas, and student/faculty support spaces. Of the approximately 134,000 gross square feet of building area, approximately 109,250 square feet would be considered above-ground space and approximately 24,750 square feet would be considered below-ground space. Considering the demolition of the approximately 6,700 square foot More Hall Annex and the approximately 600 square-foot Plant Operations Annex 7 building, the net new above-grade building square footage would be approximately 101,950 square feet.

Under Alternative 1, the portion of Snohomish Lane on the site would be generally retained in the historic alignment along the northern edge of the site (generally connecting Stevens Way NE on the west with Mason Road NE on the east) and the existing continuous line-of-sight would also be retained. In addition, enhancements to Snohomish Lane would be provided and would reflect a landscaped pedestrian pathway allowing for multiple entry points and connection to a proposed new outdoor plaza area at the western edge of the site.

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 16C)

As indicated above, through the *CMP-Seattle 2003*, the Regents provide stewardship for historic University properties. Based on historic campus planning documents, the *CMP-Seattle 2003* identified well known buildings that are associated with the early development of the campus and early master plans. None of the buildings on the site (Site 16C) are identified in the *CMP-Seattle 2003* as being historically significant; however, the More Hall Annex was subsequently placed in the Washington State Heritage and National Registers.

Direct impacts relating to historic resources under Alternative 1 would include the demolition and the permanent removal of More Hall Annex and its associated landscape from the site. The removal of More Hall Annex would be considered a direct adverse impact to historic resources.

Measures to partially mitigate the loss of the More Hall Annex include documentation of the building, including archival photography and construction documentation per Washington State DAHP Mitigation Standards Level I. This level of documentation is reserved for properties that have State and/or National significance. HABS/HAER level documentation requires coordination with DAHP and the National Park Service Columbia Cascades System Support Office in Seattle, and is submitted to the Library of Congress. Additional possible mitigation includes complete recordation by LIDAR (Light Detection and Ranging), as well as incorporating interpretation into the program of the CSE II Project describing the University's Nuclear Engineering program and the original construction and use of the More Hall Annex (former Nuclear Reactor Building) into the program of the *CSEII Project.*

A potential mitigation for Alternative 1 could also include the relocation of the More Hall Annex to a new site on campus. While relocation would preserve the above-grade pavilion portion of the More Hall Annex building, the below-grade reactor area could not feasibly be relocated. For relocation, a new site would need to identified on-campus and structural building code upgrades (i.e., new shearwalls, ADA accessibility, energy code upgrades, etc.) and mechanical/electrical systems upgrades would be required. In addition, if relocated to another site on campus, the building design characteristics could continue to limit the potential for a suitable use; relocation to another site on campus would also affect the historic context and character of the building. However, these impacts would be less than the irretrievable loss of the building.

The Print Operations Annex 7 is not considered eligible for listing in historic registers and demolition of this building would not be considered an adverse impact.

Considering retention of the historic Snohomish Lane alignment, retention of continuous line-of-sight and proposed enhancements, no direct adverse impact to Snohomish Lane would occur under Alternative 1.

Vicinity Buildings and Spaces

Mechanical Engineering Annex – Built in 1909, the four-story Mechanical Engineering Annex building abuts the Mechanical Engineering Building and is one of the few remaining structures dating from the AYP. Although this building has been modified over the years, this building is considered eligible for listing in historic registers.

The Mechanical Engineering Annex is located immediately north of the proposed improvements to Snohomish Lane and approximately 100 feet north of the proposed CSE II Building. It is not anticipated that the proposed CSE II Building would create indirect impacts to the Mechanical Engineering Annex, and the proposed CSE II Building under Alternative 1 would not be anticipated to impact the eligibility of the Mechanical Engineering Annex. Development under Alternative 1 would not be considered to have an adverse impact on the Mechanical Engineering Annex

Mechanical Engineering Building – Built in 1959, the two-story Modern style masonry building has generally been considered utilitarian, and its presence has been considered to adversely impact the more historic adjacent Mechanical Engineering Annex. The Mechanical Engineering Building is not considered to be eligible for listing in historic registers.

The Mechanical Engineering Building is located immediately north of the proposed improvements to Snohomish Lane and approximately 100 feet north of the proposed CSEII Building. It is not anticipated that the proposed CSE II Building under Alternative 1 would create indirect impacts to the Mechanical Engineering Building and would not be anticipated to result in an adverse impact.

Power Plant – The University's Central Power Plant building was constructed in 1907, with several subsequent modifications and additions. The Washington State DAHP previously determined this building not eligible for listing due to loss of physical integrity.

The Power Plant Building is located immediately north and east of the proposed improvements to Snohomish Lane and the proposed CSEII Building. It is not anticipated that the proposed CSE II Building under Alternative 1 would create indirect impacts to the Power Plant Building and would not be anticipated to result in an adverse impact.

More Hall – Constructed in 1946, More Hall is a one to three story brick and concrete building designed in the Modern Style. The state DAHP previously determined that More Hall is eligible for listing in historic registers.

The More Hall Building is located immediately south of the proposed CSEII Building. With the plaza area planned adjacent to Stevens Way NE, the CSE II Building under Alternative 1 would primarily maintain the view to More Hall's northern entrance. The proposed CSEII Building would also alter views from the northern side of More Hall. However, it is not anticipated that the proposed CSE II Building would create indirect adverse impacts to the More Hall Building and would not be anticipated to affect the eligibility of this building.

Cultural Resources (Archaeology)

Based on archival research, as well as the environmental and the cultural settings, Site 16C has a high probability for observing precontact to ethnohistoric period cultural remains. There are several Native American place names in the vicinity, and there is a recorded Native American trail crossing the site. Site 16C is also near the former shoreline where Native American settlements are most likely to be found.

Site 16C has been subject to development including excavation of foundations and grading of the surface; however, if prehistoric cultural materials remain, they would be anticipated to include lithic and/or bone tools and tool fragments; lithic tools and debris; culturally modified trees; and fragments of fire-modified rock (FMR), either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths.

The likelihood of finding historic-period archaeological remains is higher, given the history of the site as a location for the early development of the University in conjunction with the AYPE. Historic features and artifacts encountered would likely be associated with the late nineteenth- and early twentieth-century campus life and infrastructure. Artifacts and features may include personal items, brick, nails, glass and metal refuse, building foundations, and objects related to operation of machinery. Accordingly, mitigation measures related to inadvertent discovery of cultural resources has been identified for this Draft SEIS.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Under Alternative 2, located within the same 16C site as Alternative 1, existing More Hall Annex would be fully or partially retained. Given the design challenges of meeting the project's goals (see **Chapter 2**) while retaining all or a portion of the More Hall Annex, two design scenarios are analyzed.

<u>Scenario 2.1</u> would retain all of the existing More Hall Annex, and the new CSE II Building would surround the Annex on the north, east, and west sides of the Annex; approximately 30 to 40 feet of separation would be provided between the CSEII Building and More Hall Annex on each side. The CSE II Building would include four and a half-stories (including a basement level) and would contain the same building area and provide the same uses as under Alternative 1. Considering that More Hall Annex would be retained, total above grade square footage would total approximately 103,050 square feet.

Under Scenario 2.1, Snohomish Lane would be substantially realigned with the Snohomish Lane connection with Stevens Way NE occurring approximately 70 feet south of the existing connection. The Snohomish Lane alignment would then travel under the CSE II Building to the northeast to generally align with the northern edge of the site. The Lane would then travel east to the eastern edge of the site (Mason Road) to connect with the existing Snohomish Lane and Snohomish Overpass. Similar enhancements to those described under Alternative 1 are assumed.

<u>Scenario 2.2</u> would retain all of the existing More Hall Annex, and the new CSE II Building would be constructed to the north, east and west of the More Hall Annex. The new CSE II Building and More Hall Annex would be connected at the basement and lower levels, and More Hall Annex would be utilized as part of the new building. Under this scenario, the CSE

II Building would include four and a half-stories (including a basement level) and would contain the same building area and uses as described under Alternative 1. Considering that More Hall Annex would be retained, total above grade square footage would total approximately 102,910 square feet.

Under Scenario 2.2, the Snohomish Lane alignment would connect with Stevens Way NE approximately 50 feet south of the existing connection, and the alignment would angle northeast to the northern edge of the site where the Lane would travel to the south to the eastern edge of the site (Mason Road) to connect with the existing Snohomish Lane and Snohomish Overpass. Similar enhancements to those described under Alternative 1 are assumed.

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 16C)

Direct impacts relating to historic resources under Scenario 2.1, include demolition of one building on the site, Plant Operations Annex 7, not considered historic, and the reconstruction and partial rerouting of Snohomish Way. Although this scenario retains the More Hall Annex, the building's site integrity would be partially degraded by the new construction, which would be considered an adverse impact. However, these impacts would be less than the irretrievable loss of the building. Views from E Stevens Way to the More Hall Annex building would be partially obscured, also considered an adverse impact, but less than the irretrievable loss of the building.

Under Scenario 2.1 Snohomish Lane would be rerouted from its original alignment, would be partially located under the CSE II Building and would not reflect the historic continuous line-of-sight, which would be considered an adverse impact.

Direct impacts relating to historic resources under Scenario 2.2, include demolition of one building on the site, Plant Operations Annex 7, not considered historic, incorporation of the More Hall Annex into the new building. Although this alternative retains the More Hall Annex, the building's site integrity would be partially degraded by proposed new construction, which would be considered an adverse impact, but less than the irretrievable loss of the building. Additionally, Snohomish Lane would be rerouted from its original alignment and would not reflect the historic continuous line-of-sight, which would be considered an adverse impact.

Vicinity Buildings and Spaces

The overall relationship between site development under the Alternative 2 scenarios and adjacent buildings (including Mechanical Engineering Annex, Mechanical Engineering Building, Power Plant and More Hall) would be generally similar to that described for Alternative 1. However, under both Alternative 2 scenarios, views from the northern side of More Hall, considered eligible for listing in the National Register of Historic Places, would mostly be preserved. Under scenario 2.1, views toward More Hall's northern entrance from E Stevens Way would be decreased, and would be considered an adverse impact. Under scenario 2.2, views toward More Hall from E Stevens Way would mostly be preserved. Under scenario 2.1, views to the Engineering Annex, considered eligible for listing in the National Register of Historic Places, from Snohomish Lane may be obscured as the pedestrian pathway passes under the CSE II Building and would be considered an adverse impact. Other adjacent buildings, including the Mechanical Engineering Building and the Power Plant, are not considered to be eligible for listing in historic registers and obstruction of views to and from the buildings would not be considered an adverse impact.

Cultural Resources (Archaeology)

As described for Alternative 1, Site 16C has a high probability for observing precontact to ethnohistoric period cultural remains. There are several Native American place names in the vicinity, and there is a recorded Native American trail crossing the site. If prehistoric cultural materials remain, they would be anticipated to include lithic and/or bone tools and tool fragments; lithic tools and debris; culturally modified trees; and fragments of fire-modified rock (FMR), either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths.

The likelihood of finding historic-period archaeological remains is higher, given the history of the site as a location for the early development of the University in conjunction with the AYPE. Historic features and artifacts encountered would likely be associated with the late nineteenth- and early twentieth-century campus life and infrastructure. Artifacts and features may include personal items, brick, nails, glass and metal refuse, building foundations, and objects related to operation of machinery. As under Alternative 1, mitigation measures related to inadvertent discovery of cultural resources would be implemented for construction activities under Alternative 2.

Alternative 3 – Development of the CSE II Project on Site 14C

Under Alternative 3, the *CSEII Building* would be located on Development Site 14C and would include the removal of the existing buildings on the site (University Facilities Buildings and Plant Operation Annex Buildings). Alternative 3 also includes two development scenarios.

<u>Scenario 3.1</u> assumes the *CSEII Building* as a low rise building (four stories, including a partial basement) in an east-west orientation along the northern portion of Site 14C. <u>Scenario 3.2</u> assumes the *CSEII Building* as a high-rise building (seven stories, including a partial basement) with a north-south orientation along Stevens Way and Jefferson Road. (See **Chapter 2** for further information.)

Historic Resources (Buildings and Spaces)

Buildings and Spaces on the Site (Site 14C)

Development under Scenario 3.1 would result in the demolition of all existing structures within the boundaries for Site 14C including: the Facilities Services Administration Building, University Facilities Building, Plant Operations Annex 4, and Plant Operations Annex 2; none of the existing buildings on the site are considered eligible for listing on historic registers, and demolition without mitigation would not be considered an adverse impact.

Site development under Scenario 3.2 would result in the demolition of the Facilities Services Administration Building and the University Facilities Building; neither of which are considered eligible for listing on historic registers, and demolition without mitigation would not be considered an adverse impact.

Vicinity Buildings and Spaces

There are three buildings in the immediate vicinity of Site 14C that are over 50 years of age; the University of Washington Club, Power Plant, and Husky Union Building. Of these three buildings, only the University of Washington Club is considered historic having been placed on the National Register of Historic Places.

Indirect adverse impacts to the University Club under Alternate 3 include potential loss of views to the southeast including views toward the Evergreen Floating Bridge, Lake Washington and the Cascade Mountains. Scenario 3.1 would obstruct a portion of the view from existing views, although the majority of the existing view to Lake Washington and the Cascade Mountains would be maintained. However, the CSE II buildings intrusion into the views from the University Club under Scenario 3.1 would be considered an adverse impact. The CSE II Building under Scenario 3.2 would not be visible from existing University Club views to the southeast, and adverse impacts would not be anticipated.

Cultural Resources (Archaeology)

Based on archival research, as well as the environmental and the cultural settings, the Alternative 3 site (Site 14C) has a moderate to high probability for finding precontact to ethnohistoric period cultural remains. The topography in Site 14C is sloping and would be a less ideal location for settlement than Site 16C.

Site 14C has been the subject to development including excavation of foundations and grading of the surface; however, if prehistoric cultural materials remain, they would be anticipated to include lithic and/or bone tools and tool fragments; lithic tools and debris; culturally modified trees; and fragments of FMR, either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths.

The likelihood of finding historic-period archaeological remains is higher, given the history of the site area as a location for the early development of the University in conjunction with the AYPE. Historic features and artifacts encountered would likely be associated with the late nineteenth- and early twentieth-century campus life and infrastructure. Artifacts and features may include personal items, brick, nails, glass and metal refuse, building foundations, and objects related to operation of machinery.

Alternative 4 - No Action Alternative

Under the No Action Alternative, the proposed CSE II Project would not be constructed and no direct or indirect long-term or construction-related impacts would affect historic or cultural resources on campus.

3.2.3 Mitigation Measures

The following mitigation measures are proposed for the development of the *CSE II Project* on the University of Washington campus.

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

- Potential mitigation associated with Alternative 1 could include additional documentation of the building, including additional archival photography and construction documentation per Washington State DAHP Mitigation Standards Level I (See federal register Vol. 68, No. 139, which outlines Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation). This level of documentation is reserved for properties that have State and/or National significance. HABS/HAER level documentation requires coordination with DAHP and the National Park Service Columbia Cascades System Support Office in Seattle, and is submitted to the Library of Congress.

- Additional possible mitigation includes complete recordation by LIDAR (Light Detection and Ranging), as well as incorporating interpretation of the University's Nuclear Engineering program and the construction and use of the More Hall Annex (former Nuclear Reactor Building) into the program of the *CSEII Project*.

- Potential mitigation for Alternative 1 could also include the relocation of the above-grade pavilion portion of the More Hall Annex to a new site on campus.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

- Potential mitigation associated with Alternatives 2.1 and 2.2 include compliance with the "Secretary of the Interiors' Standards and Guidelines (as Amended and Annotated)," particularly "Standards for Rehabilitation," and associated technical information and preservation briefs.

- Additional possible mitigation includes incorporating interpretation of the University's Nuclear Engineering program and the construction and use of the More Hall Annex (former Nuclear Reactor Building) into the program of the *CSE II Project*.

Alternative 3 – Development of the CSE II Project on Site 14C

- Potential mitigation associated with Alternative 3 include limiting the height of the eastern portion of the proposed building to minimize view impacts from the University of Washington Club's eastern second floor windows.

Accidental Discovery of Archaeological Resources

- In the event that archaeological deposits are inadvertently discovered during construction in any portion of the 16C and 14C sites, ground-disturbing activities should be halted immediately, and University of Washington should be notified. The University would then contact DAHP and the interested Tribes, as appropriate, and as described in the recommended inadvertent discovery plan.

Discovery of Human Remains

- Any human remains that are discovered during construction of the CSE II Project (on either Site 16C or Site 14C) will be treated with dignity and respect.

  - If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains must cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains must be reported to the county coroner and local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

  - The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to the DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

3.2.4 Significant Unavoidable Adverse Impacts

Historic Resources and Spaces

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

Under Alternative 1, the More Hall Annex building would be demolished and permanently removed from the site and the historic features associated with the building would no longer exist on the site, resulting in an adverse impact. The portion of Snohomish Lane on the site would reflect the existing alignment and would retain the existing line-of sight character, and impacts to Snohomish Lane under Alternative 1 would not be considered adverse.

Alternative 2 – Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Under Alternative 2, Scenario 2.1, More Hall Annex would be retained on the site and would be surrounded by the proposed CSEII Building. The site integrity of the More Hall Annex would be partially degraded by the assumed new construction, and views from E Stevens Way to the More Hall Annex building would be partially obscured, which would be considered an adverse impact; however, this impact would be less than the irretrievable loss of the building. Additionally, Snohomish Lane would be rerouted from its original alignment, would be partially located under the CSE II building, and would not reflect the historic line-of-sight, which would be considered an adverse impact.

Under Alternative 2, Scenario 2.2, More Hall Annex would be incorporated into the new building. Although this alternative retains the More Hall Annex, the building's site integrity would be partially degraded by proposed new construction, and views from E Stevens Way to the More Hall Annex building would be partially obscured, which would be considered an adverse impact, but less than the irretrievable loss of the building. Additionally, Snohomish Lane would be rerouted from its original alignment, and would not reflect the historic line-of-sight, which would be considered an adverse impact.

Alternative 3 – Development of the CSE II Project on Site 14C

The Alternative 3 site (Site 14C) does not contain any buildings identified as eligible for historic registers and demolition of existing building on the site without mitigation would not be considered an adverse impact. Scenario 3.1 would result in partial obstruction of the view from the University Club which would be considered an adverse impact.

Cultural Resources

With implementation of the proposed mitigation measures, significant impacts to cultural resources would not be anticipated under the SEIS Alternatives.

3.3 TRANSPORTATION

This section of the Draft SEIS describes and evaluates the potential impacts associated with the transportation from the CSE II Project under Alternative 1 (Preferred Alternative – Site 16C), Alternative 2 (Development of the CSE II Project on Site 16C and Retention of More Hall Annex) and Alternative 3 (Development of the CSE II Project on Site 14C). Construction-related impacts associated with air quality, greenhouse gases, noise, vibration, and trees are analyzed in this section. Transportation impacts (vehicle circulation. Pedestrian circulation and parking) evaluated in this section include impacts associated with construction and operation of the CSE II Project.

3.3.1 Affected Environment

Alternative 1 and Alternative 2 Site - Site 16C

The approximately 2.2-acre (97,500-square foot) Alternatives 1 and 2 site (CMP-Seattle 2003 Development Site 16C) is located in the Central Campus of the University of Washington and is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west (see **Figure 2-1** for map of the University of Washington campus).

Vehicular access to the site is provided from Stevens Way NE (to the west), Jefferson Road NE (bisecting the site), and Mason Road NE (to the east). Two existing parking areas are located on the site (University Parking Area C12 and C15) with both accessible from Jefferson Road NE. On-street parking is also provided on the western edge of the site adjacent to Stevens Way NE.

Snohomish Lane is located along the northern edge of the site and provides pedestrian and bicycle access through the site between Stevens Way NE and Jefferson Road NE[1]. This pedestrian walkway also provides a connection between the Central Campus to the west and the Burke Gilman Trail and Hec Edmundson Bridge to the east of the site. See **Figure 2-2** for a map of the existing Alternatives 1 and 2 site survey.

Alternative 3 Site – Site 14C

The approximately 1.9-acre (83,500-square foot) Alternative 3 site (CMP-Seattle 2003 Development Site 14C) is also located in the Central Campus of the University of Washington and is generally bounded by the University of Washington Club Building (formerly known as the University of Washington Faculty Club) and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library

[1] Bicycle traffic also periodically utilizes the existing Snohomish Lane; however, the presence of several existing staircases along the pathway make bicycle travel more difficult.

Building, Stevens Way NE and the HUB to the west (see **Figure 2-1** for map of the University of Washington campus).

Vehicular access to the site is provided from Jefferson Road NE via Stevens Way NE. Limited vehicular parking (approximately two to three spaces) is available to the south of the existing University Facilities Services Administration Building and is restricted to loading/unloading and temporary parking only; University Parking Area C23 is also located on the southern portion of the site and contains approximately 21 parking spaces.

Pedestrian pathways are also located on the site to provide connections through the site area to the north, south, east and west of the Alternative 3 site. See **Figure 2-3** for an aerial map of the Alternative 3 site.

3.3.2 Environmental Impacts

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

Construction Traffic

During construction of the CSE II Building, the proposed staging area and construction parking areas would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington. Construction vehicle routes would also be coordinated and determined by the GCCM and University of Washington, as well as approved by the City of Seattle as part of the permit process, and would designed to minimize disturbance and maintain vehicle and pedestrian safety near the project site.

It is estimated that construction under Alternative 1 would require approximately 9,520 cubic yards (cu. yd.) of cut material and 170 cu. yd. of fill material. With a 20 percent expansion rate, and assuming 22 cubic yards capacity per truck, this would result in approximately 528 truck trips generated to and from the site during the development of the proposed CSE II Project. Truck trips associated with the construction process would be distributed over a multi-day period and during non-peak times, so significant traffic impacts associated with the estimated truck traffic would not be anticipated.

Pedestrian and bicycle routes through and adjacent to the site would be temporarily affected by construction. During the construction process, the existing Snohomish Lane pedestrian and bicycle pathway though the site would be closed and traffic would be routed through and/or around the site to connect with the Central Campus to the west and Burke Gilman Trail to the east. Temporary bicycle and pedestrian routes are expected to be in effect for the duration of the construction period for the CSE II Project and would be determined by the GCCM and University of Washington.

During construction, approximately 36 auto parking stalls would be temporarily displaced during construction. Auto parking stalls that are temporarily displaced during construction (including University Parking Areas C12 and C15, as well as loading spaces along Stevens Way NE) could be accommodated by parking lots located in the vicinity of the site, including the Central Plaza garage (to the west) and University Parking Area E1 (to the east). Existing bicycle parking currently located on the site (approximately 63 bicycle parking spaces) would be temporarily relocated to a location near the site for use during the development of the CSE II Project.

Development of a construction management plan would help alleviate construction impacts on the surrounding on- and off-campus roadway networks. It is suggested that construction truck trips be limited to non-peak hours and a construction truck route be defined to reduce the impacts on the adjacent roadway systems. This plan would also include a safe route around the construction site for pedestrians and bicyclists.

Operational Vehicle Traffic and Parking

Subsequent to construction, vehicular access to the CSE II Building would be provided from Stevens Way NE to the west of Site 16C, with short-term parking and loading areas located adjacent to the roadway; fire and emergency access would also be provided along Stevens Way NE. The loading dock for the proposed CSE II Building would be located on the south side of the basement level and would be accessible from Jefferson Road NE and Mason Road NE to the east of the site.

Access through the site on Jefferson Road and Mason Road would be maintained under Alternative 1 and would allow for access that would be similar to the current conditions. Existing uses in the site vicinity (i.e. University Power Plant, etc.) require certain height clearances for equipment deliveries along Jefferson Road and Mason Road. Height clearance requirements for Jefferson Road have typically been approximately 16 feet high and height clearances for Mason Road have been approximately 23 feet high.

Approximately 28 parking spaces in University Parking Areas C12 and C15 would be temporarily displaced by construction activities under Alternative 1; nine of these spaces would be permanently displaced by the development of the CSE II Building. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the CSE II Project site. Staff and students that drive to campus would be anticipated to park their personal vehicles in assigned University parking lots. Approximately 63 existing bicycle parking spaces would be displaced as part of the project under Alternative 1. New bicycle parking racks would be provided at the southeast portion of the site and along Snohomish Lane and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Operational Pedestrian and Bicycle Circulation

Snohomish Lane is located on the northern edge of the Alternative 1 site and currently provides a pedestrian connection between the Central Campus and areas to the east (i.e., Burke Gilman Trail, Snohomish Overpass/Hec Edmundson Bride and athletic facilities)[2]. Under Alternative 1, the CSE II Project would include an enhanced Snohomish Lane pathway connection. Snohomish Lane would travel along the northern portion of the proposed CSE II Building (slightly north of the existing Snohomish Lane alignment) which would allow for multiple building entry points along Snohomish Lane, as well as provide for visual interaction between the building and pathway area. The enhanced pathway, which would continue to provide connections between the Central Campus and areas to the east, would feature a landscaped stepped path that connects Stevens Way through the site to the existing Snohomish Overpass/Hec Edmundson Bridge to the east of the site. The orientation, configuration and alignment of the new Snohomish Lane through Site 16C from Stevens Way NE to Mason Road NE will continue to be developed during the design of the CSE II Project. The University is considering long term development scenario's for campus circulation that include the replacement of the existing Snohomish Overpass Bridge[3] with a potential new pedestrian bridge over Montlake Boulevard to connect the Central Campus to the East Campus. The location of this potential new bridge is likely to be just to the north of the existing bridge. If the University elects to align Snohomish Lane through the site with the likely location of a new bridge (as depicted on **Figure 2-4** of Chapter 2), it is possible that there could be an impact to pedestrians and bicycles if the future alignment of the Snohomish Overpass Bridge changes or if the project is not completed in the near future due to a disconnect that could occur with Snohomish Lane at its intersection with Mason Road NE. If necessary, a striped diagonal crosswalk could be provided to mitigate this impact and connect the new Snohomish Lane across Mason Road NE to the existing Snohomish Lane stairs between Mason Road NE and the Burke Gilman Trail.

In addition, a new outdoor plaza area would be located on the western portion of the site, between the proposed building and Stevens Way, which is intended to create a pedestrian "mixing zone" as well as unify the two CSE buildings.

Alternative 2 – Scenario 2.1 and 2.2: Development of the CSE II Project on Site 16C and Retention of the More Hall Annex

Construction Traffic

Similar to Alternative 1, during construction, the proposed staging area and construction parking areas for Alternative 2 would be coordinated between the general

[2] Bicycle traffic also periodically utilizes the existing Snohomish Lane; however, the presence of several existing staircases along the pathway makes bicycle travel more difficult.
[3] The renovation/replacement of the Snohomish Overpass Bridge would be completed as part of a separate project.

contractor/construction manager (GCCM) and the University of Washington. Construction vehicle routes would also be coordinated and determined by the GCCM and University of Washington, as well as approved by the City of Seattle as part of the permit process, and would be designed to minimize disturbance and maintain vehicle and pedestrian safety near the project site.

It is estimated that construction under Alternative 2 would require approximately 11,338 cu. yd.) of cut material and 1,150 cu. yd. of fill material under Scenario 2.1 and 11,220 cu. yd. of cut material and 1,150 cu. yd. of fill material under Scenario 2.2. With a 20 percent expansion rate, and assuming 22 cubic yards capacity per truck, this would result in approximately 681 truck trips generated to and from the site during the development under Scenario 2.1 and approximately 675 truck trips under Scenario 2.2. Truck trips associated with the construction process would be distributed over a multi-day period and during non-peak times, so significant traffic impacts associated with the estimated truck traffic would not be anticipated.

Pedestrian and bicycle routes through and adjacent to the site would be temporarily affected by construction. During the construction process, the existing Snohomish Lane pedestrian and bicycle pathway though the site would be closed and traffic would be routed around the site to connect with the Central Campus to the west and Burke Gilman Trail to the east. Temporary bicycle and pedestrian routes are expected to be in effect for the duration of the construction period for the CSE II Project.

During construction, auto parking stalls that are temporarily displaced during construction (including University Parking Areas C12 and C15) could be accommodated by parking lots located in the vicinity of the site, including the Central Plaza garage (to the west) and University Parking Area E1 (to the east). Existing bicycle parking currently located on the site would be temporarily relocated to a location near the site for use during the development of the CSE II Project.

Development of a construction management plan would help alleviate construction impacts on the surrounding on- and off-campus roadway networks. It is suggested that construction truck trips be limited to non-peak hours and a construction truck route be defined to reduce the impacts on the adjacent roadway systems. This plan would also include a safe route around the construction site for pedestrians and bicyclists.

Operational Vehicle Traffic and Parking

Similar to Alternative 1, primary vehicular access under the Alternative 2 scenarios would continue to be provided from Stevens Way to the western portion of the site with short-term parking and vehicle loading areas along Stevens Way NE; fire and emergency access would also be provided along Stevens Way NE. The loading dock for the CSE II Building would be located on the south side of the basement level and would be accessible from Jefferson Road NE and Mason Road NE to the east of the site.

Access through the site on Jefferson Road and Mason Road would be maintained under the Alternative 2 scenarios and would allow for access that would be similar to the current conditions and Alternative 1.

Approximately 28 parking spaces (within University Parking Areas C12 and C 15) would be temporarily displaced by construction activities under Alternative 2; nine of these parking spaces would be permanently displaced by the development of the CSE II Building. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the CSE II Project site. Staff and students that drive to campus would be anticipated to park their personal vehicles in assigned University parking lots. New bicycle parking would be provided at the south portion of the building and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Operational Pedestrian and Bicycle Circulation

Development of the CSE II Building under Alternative 2 would compromise the existing Snohomish Lane pathway and require the realignment of Snohomish Lane through the site (i.e., between the More Hall Annex and CSE II Building under Scenario 2.1 or to the north of the CSE II Building under Scenario 2.2). Realignment of the pathway would continue to provide access through Site 16c, but would result in a more circuitous route and obstruct a portion of the existing continuous line-of-sight view corridor from Snohomish Lane toward Lake Washington to the east.

Similar to Alternative 1, the orientation, configuration and alignment of the new Snohomish Lane through Site 16C from Stevens Way NE to Mason Road NE will continue to be developed during the design of the CSE II Project. If the University elects to align Snohomish Lane through the site with the likely location of a new Snohomish Overpass Bridge (as depicted on **Figure 2-11** and **2-14** of Chapter 2), it is possible that there could be an impact to pedestrians and bicycles if the future alignment of the Snohomish Overpass Bridge changes or if the project is not completed in the near future due to a disconnect that could occur with Snohomish Lane at its intersection with Mason Road NE. If necessary, a striped diagonal crosswalk could be provided to mitigate this impact and connect Snohomish Lane across Mason Road NE to the existing stairs between Mason Road NE and the Burke Gilman Trail.

A new outdoor plaza area would be located on the western portion of the site, between the proposed building and Stevens Way, similar to Alternative 1. The new plaza would create a mixing zone of pedestrian pathways from Snohomish Lane, Stevens Way, and the entries for the Mechanical Engineering Building and More Hall.

Alternative 3 – Development of the CSE II Project on Site 14C

Construction Traffic

Similar to Alternatives 1 and 2, during construction, the proposed staging area and construction parking areas for Alternative 3 would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington. Construction vehicle routes would also be coordinated and determined by the GCCM and University of Washington and would be designed to minimize disturbance and maintain vehicle and pedestrian safety near the project site.

It is estimated that construction under the Alternative 3 scenarios would require approximately 7,500 cu. yd. of cut material and 350 cu. yd. of fill material. With a 20 percent expansion rate, and assuming 22 cu. yd. capacity per truck, this would result in approximately 428 truck trips generated to and from the site during the development on Site 14C. Truck trips associated with the construction process would be distributed over a multi-day period and during non-peak times, so significant traffic impacts associated with the estimated truck traffic would not be anticipated.

Pedestrian and bicycle routes through and adjacent to the site would be temporarily affected by construction. During the construction process, the existing pedestrian and bicycle pathways though the site would be closed and traffic would be routed around the site to connect with the Central Campus to the west and Mason Road NE and the Burke Gilman Trail to the east. Temporary bicycle and pedestrian routes are expected to be in effect for the duration of the construction period for the CSE II Project.

During construction, approximately 60 auto parking stalls would be temporarily displaced during construction. Auto parking stalls that are temporarily displaced during construction (including University Parking Area C23, C19, and N24, as well as other vehicle loading areas on Site 14C) could be accommodated by parking lots located in the vicinity of the site, including the Padelford Parking Garage (to the north), the Central Plaza garage (to the west) and University Parking Area E1 (to the east). Temporary displacement of approximately four parking stalls at the south end of University Parking Area C19 would impact the University of Washington Club which utilizes this parking area for visitors to the Club; however, parking would be available at University Parking Area N22 (approximately 200 feet to the northwest of the Club) and the Padelford Parking Garage (approximately 300 feet to the north) during the construction period. Existing bicycle parking currently located on the site (approximately 19 bicycle parking spaces) would be temporarily relocated to a location near the site for use during the development of the CSE II Project.

Development of a construction management plan would help alleviate construction impacts on the surrounding on- and off-campus roadway networks. It is suggested that construction truck trips be limited to non-peak hours and a construction truck route be defined to reduce the impacts on the adjacent roadway systems. This plan would also include a safe route around the construction site for pedestrians and bicyclists.

Operational Vehicle Traffic and Parking

Vehicular access under Alternative 3 would continue to be provided from the western portion of the site along Jefferson Road NE via Stevens Way NE; fire and emergency access would also be provided from Stevens Way NE and Jefferson Road NE. The existing north-south roadway connection through Site 14C between Stevens Way and Jefferson Road would also be maintained under Alternative 3 and would provide additional access to the CSE II Building. The loading dock for the CSE II Building would be located on the south side of the basement level and would be accessible from the north-south vehicular roadway.

Approximately 60 parking spaces would be temporarily displaced by construction activities under Alternative 3; these spaces are anticipated to be replaced once the development of the CSE II Building is completed. Similar to the parking procedures for many other University buildings on campus, staff and student parking would not be provided on the site. Staff and students that drive to campus would be anticipated to park their personal vehicles in surrounding University parking lots.

Operational Pedestrian and Bicycle Circulation

Subsequent to construction, pedestrian and bicycle access to Site 14C would continue to primarily be provided by Stevens Way NE, Jefferson Road NE and their associated adjacent sidewalk areas. A new courtyard area adjacent to the CSE II Building and Stevens Way NE would serve as a hub and gathering space for pedestrian and bicycle traffic to the building. In addition, a new sidewalk would also be provided along the maintained north-south roadway connection through the site (between Stevens Way NE and Jefferson Road NE) to create enhanced pedestrian connections through Site 14C.

Approximately 19 bicycle parking spaces would be displaced as part of the construction of the CSE II Building. New bicycle parking racks would be provided at the west and south portions of the site and would include parking for approximately 105 bicycles (within the building and outdoor bicycle parking).

Alternative 4 – No Action Alternative

Under Alternative 4 – No Action Alternative, development of the *CSE II Project* would not occur at this time. The existing transportation conditions would remain on the site and no construction-related transportation impacts would occur at this time.

3.3.3 Mitigation Measures

The following mitigation measures would be implemented to minimize potential transportation-related impacts from the proposed *CSE II Project*.

- Construction activities would occur in compliance with applicable University of Washington and City of Seattle regulations and would include the preparation of a Construction Management Plan to control and minimize potential construction-related transportation issues.

- New bicycle parking spaces would be provided on Site 16C or Site 14C in conjunction with site development. The number of bicycle parking spaces would be consistent with University of Washington requirements.

- The proposed *CSE II Project* would fall under the provisions of the University of Washington's Transportation Management Plan (TMP), including elements such as parking pricing and the U-Pass Program to help reduce single-occupancy vehicle trips and encourage transit use, carpooling and other alternative modes of transportation.

- Under Alternatives 1 and 2, the orientation, configuration and alignment of the new Snohomish Lane through Site 16C from Stevens Way NE to Mason Road NE will continue to be developed during the design of the CSE II Project. If the University elects to align Snohomish Lane through the site with the likely location of a new Snohomish Overpass Bridge (north of the existing bridge), it is possible that there could be an impact to pedestrians and bicycles if the future alignment of the Snohomish Overpass Bridge changes or if the project is not completed in the near future due to a disconnect that could occur with Snohomish Lane at its intersection with Mason Road NE. If necessary, a striped diagonal crosswalk could be provided to mitigate this impact and connect Snohomish Lane across Mason Road NE to the existing stairs between Mason Road NE and the Burke Gilman Trail.

3.3.4 Significant Unavoidable Adverse Impacts

With the implementation of the mitigation measures described above, significant unavoidable adverse transportation impacts would not be anticipated.

3.4 CONSTRUCTION IMPACTS

This section of the Draft SEIS describes and evaluates the potential impacts associated with the construction of the CSEII Project under Alternative 1 (Preferred Alternative – Site 16C), Alternative 2 (Development of the CSEII Project on Site 16C with Retention of More Hall Annex) and Alternative 3 (Development of the CESII Project on Site 14C). Construction-related impacts associated with air quality, greenhouse gases, noise, vibration, and trees are analyzed in this section. A discussion on transportation conditions (vehicle circulation. Pedestrian circulation and parking) during construction and operations is included in Section 3.3 **Transportation**.

3.4.1 Affected Environment

Alternative 1 and Alternative 2 Site – Site 16C

The approximately 2.2-acre (97,500-square foot) Alternatives 1 and 2 site (CMP-Seattle 2003 Development Site 16C) is located in the Central Campus of the University of Washington and is generally bounded by the Mechanical Engineering Building, Engineering Annex and University Power Plant to the north, Mason Road NE to the east, More Hall to the south, and Stevens Way NE to the west (see **Figure 2-1** of Chapter 2 for map of the University of Washington campus).

The site generally slopes from west to the east with a grade change of approximately 30 feet from Stevens Way NE to Jefferson Road NE and an additional 10 feet of grade change between Jefferson Road NE and Mason Road NE.

Existing lawn areas are located along western portion of the site, adjacent to Stevens Way NE. These areas can serve as informal gathering areas for students and staff in the vicinity of the site.

Vehicular access to the site is provided from Stevens Way NE (to the west), Jefferson Road NE (bisecting the site), and Mason Road NE (to the east). Two existing parking areas are located on the site (University Parking Area C12 and C15) with both accessible from Jefferson Road NE. On-street parking is also provided on the western edge of the site adjacent to Stevens Way NE. Snohomish Lane is located along the northern edge of the site and provides pedestrian and bicycle access through the site between Stevens Way NE and Jefferson Road NE; this pedestrian walkway also provides a connection between Central Campus to the west, with the Burke Gilman Trail and Hec Edmundson Bridge to the east of the site. See **Figure 2-2** of Chapter 2 for a map of the existing Alternatives 1 and 2 site survey.

Vegetation on the site primarily consists of the aforementioned lawn areas, as well as existing mature trees and shrubs along the north and south edges of the site and surrounding the More Hall Annex Building. A total of 60 trees are located on the site, including 51 trees that meet the City of Seattle's definition of significant trees. Of these 51 significant trees, 27 trees would meet the City of Seattle's designation of Exceptional Trees[1].

Site 16C currently contains the More Hall Annex building. The More Hall Annex was constructed in 1961 to serve the Nuclear Engineering Program and was designed specifically for nuclear reactor purposes. The building exhibits characteristics that are substantially different from other academic and office uses buildings on the campus. The two-story, approximately 6,700-square foot reinforced concrete structure consists of an underground main floor (spanned by four-foot wide concrete slabs resting on ten-inch thick poured beam walls) and a second floor penthouse with windows to allow views down to the reactor floor; the penthouse is the only portion visible from Stevens Way NE. A broad concrete deck surrounding the upper level penthouse was intended to allow for viewing the operating reactor.

A 100-foot diameter oil tank is buried below Jefferson Road (immediately southwest of the University Power Plant) and is located along the northern edge of the site. The tank provides backup hearing oil for the University power plant and fuel for the emergency generators. An access hatch for the tank is located approximately within the center of Jefferson Road and overhead crane access to the hatch must be maintained for periodic removal and maintenance of the tank. An associated oil containment tank is located to the south of the main oil tank and a large spill containment zone is provided on top of the 100-foot oil tank as required by existing codes. The existing oil tank is considered essential to campus operations and there is no feasible way to relocate the tank.

Surrounding Area

The Alternative 1 and 2 site (Development Site 16C) is located in the Central Campus area of the University of Washington campus, which is characterized by the historic core of the University and its surrounding perimeter with a variety of uses including academic, student housing, and University support uses. Within the Original Core there are a number of significant buildings and open spaces including the Liberal Arts Quadrangle, Denny Yard, Memorial Way, Rainier Vista, Hub Yard, Parrington Lawn, and Central Plaza (see **Figure 2-3** for an aerial map of the Alternatives 1 and 2 site and surrounding area).

The area to the north of the Alternative 1 and 2 site is primarily comprised of the two-story (plus one below-grade level) Mechanical Engineering Building (Department of Mechanical Engineering and Department of Industrial Engineering), the three- to five-story Engineering Annex Building (Department of Mechanical Engineering and the College of Engineering Office of the Dean), and the University's Central Power Plant. Further to the north are a number of other academic buildings (i.e., Loew Hall and the Engineering Library Building), as well as the Husky Union Building (HUB) and University Facilities Buildings.

---

[1] City of Seattle Department of Planning and Development – Director's Rule 16-2008.

To the east of the site is Mason Road NE, an internal roadway along the eastern edge of the Central Campus which connects Stevens Way NE with Pend Oreille Road NE. The Burke Gilman Trail is located further to the east and provides a connection to the University's East Campus area, as well as a regional trail connection between the City of Seattle and the Cities of Kenmore and Bothell (to the northeast).

The area to the immediate south of the Alternative 1 and 2 site is primarily comprised of the three- to four-story More Hall Building which houses the University's Department of Civil and Environmental Engineering Programs. Further to the south are the Roberts Hall (Department of Materials Science and Engineering), Wilcox Hall (Department of Civil and Environmental Engineering, Department of Mechanical Engineering, and Department of Materials Science and Engineering), the Wilson Ceramics Lab (Department of Civil and Environmental Engineering), and Mueller Hall (located underground and housing the Department of Materials Science and Engineering).

To the west of the site, beyond Stevens Way NE, is the six-story Paul G. Allen Center for Computer Science and Engineering which is the current home of the Computer Science and Engineering Program. Further to the west are the five-story Electrical Engineering Building (Department of Electrical Engineering), the Columns and Sylvan Theater area (a vegetated open space area), Drumheller Fountain, and the Rainier Vista (vegetated open space area and view corridor).

Alternative 3 Site – (Site 14C)

The approximately 1.9-acre (83,500-square foot) Alternative 3 site (CMP-Seattle 2003 Development Site 14C) is also located in the Central Campus of the University of Washington and is generally bounded by the University of Washington Club Building (formerly known as the University of Washington Faculty Club) and Fluke Hall to the north, Mason Road NE to the east, Loew Hall and the Central Power Plant to the south, and the Engineering Library Building, Stevens Way NE and the HUB to the west (see **Figure 2-1** for map of the University of Washington campus).

The site slopes down from west to east with a grade change of approximately 16 feet from the west end of the site (adjacent to Stevens Way NE) to the east end of the site (adjacent to Mason Road NE). A total of 108 trees are located on the site, including 93 trees that meet the City of Seattle's definition of significant trees. Of these 93 significant trees, 32 trees would meet the City of Seattle's designation of Exceptional Trees

The Alternative 3 site currently contains several University buildings, including the two-story the University Facilities Building, the two-story University Facilities Services Administration Building, and the two-story University Facilities Plant Operations Annex Buildings (Buildings 1 through 6). These existing on-site buildings primarily house several functions of the University Facilities offices, including Campus Engineering, Computer Services, and Human Resources, as well as the University's Capital Projects Office.

Vehicular access to the site is provided from Jefferson Road NE via Stevens Way NE. Limited vehicular parking (approximately two to three spaces) is available to the south of the existing University Facilities Services Administration Building and is restricted to loading/unloading and temporary parking only; University Parking Area C23 is located on the southern portion of the site and contains approximately 21 parking spaces. Pedestrian pathways are also located on the site to provide connections through the site area to the north, south, east and west of the Alternative 3 site. See **Figure 2-3** of Chapter 2 for an aerial map of the Alternative 3 site.

Surrounding Area

The area to the north of the Alternative 3 site is primarily comprised of the University of Washington Club Building and Fluke Hall. The University of Washington Club Building is a two-story building that serves a social club for University faculty and staff. The building was listed on the National Register of Historic Places and the Washington Heritage Register in 2010 and includes views to the east and south toward Union Bay and Lake Washington. The two-story Fluke Hall contains the Department of Mechanical Engineering and the Microfabrication Lab; University Parking Area N24 is also located adjacent to Fluke Hall. Further to the north of the Alternative 3 site is the Hall Health Building (medical outpatient clinic for students and staff), Padelford Hall (academic offices), and the Padelford Parking Garage.

To the east of the site is Mason Road NE, an internal University roadway that provides vehicular circulation along the eastern edge of the Central Campus between Stevens Way NE and Pend Oreille Road NE. Further to the east is the Burke Gilman Trail, Montlake Boulevard NE and the University's East Campus area (Intermural Activities Building and Fields, University Parking Area E1 and the Chaffey Field).

The area to the south of the Alternative 3 site is comprised of Loew Hall and the Central Power Plant. Further to the south are the Mechanical Engineering Building, the Engineering Annex Building and the More Hall Annex (Development Site 16C – Alternatives 1 and 2).

To the west of the site is the Engineering Library Building and Stevens Way NE. Further to the west, beyond Stevens Way NE is the HUB and the HUB Yard (vegetated open space area). The three-story HUB provides space for student services, activities and organizations, as well as dining and food services facilities for students, staff and visitors.

3.4.2 Environmental Impacts

Alternative 1 – Preferred Alternative: Development of the CSE II Project on Site 16C

Construction Activities

Construction activities associated with the CSEII Project would occur throughout the site and would include: the removal of existing building (More Hall Annex), pavement and landscaping; excavation and grading; and, construction of an approximately 130,000 square foot building. It is anticipated that construction activities would begin in September 2016 with building occupancy by September 2018.

The primary construction access to the site would be via Stevens Way to west or via Jefferson Road to the east. It is possible that some construction activities for the project could occur in the evening hours in order to reduce the duration of the overall construction period. This is also due to the fact that the City of Seattle requires certain construction activities to be carried out at night to reduce impacts to pedestrians and vehicles during the day.

Demolition activities would include the demolition and removal of the More Hall Annex building from the site. Demolition of the building would be conducted in accordance with applicable requirements of the United States Nuclear Regulatory Commission (NRC). An approximately six-person crew would be used to demolish the building and would be anticipated to use a truck-mounted demolition machine, one excavator, and one loader. Demolition of the More Hall Annex building would be anticipated to take approximately three weeks.

In addition to More Hall Annex, existing pavement on the site associated with Snohomish Lane, walkways and other paved areas would be demolished and transported from the site to a permitted regional recycling facility. Approximately 18 trees would be removed from the site to accommodate proposed construction, including approximately five significant trees and eight Exceptional trees.

Some site grading (cut, fill and site regarding) would be required due to the nature of the proposed building being partially buried into the hillside at the basement level. Construction of the project under Alternative 1 would require approximately 9,500 cubic yards of cut/excavated materials and approximately 170 cubic yards of imported fill material. Due to site soil conditions, it is anticipated that none of the cut/excavated material would be used as project fill material.

A construction staging area and construction parking plan would be coordinated between the general contractor/construction manager (GCCM) and the University of Washington prior to development on the site. Construction vehicle traffic routes would also be coordinated between the GCCM and the University of Washington, as well as approved by the City of Seattle as part of the permit process, and would be intended to minimize disturbance to the extent feasible, while also protecting pedestrian and vehicle safety in the area.

Air Quality

Under Alternative 1, construction activities on the site would generate air pollutants as a result of fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as dust/emissions from other construction-related activities. Uses in nearby buildings such as More Hall, the Mechanical Engineering Building, the Engineering Annex, and the Paul Allen Center for Computer Science & Engineering could be sensitive to fugitive dust due to their proximity to the project site; pedestrians and bicyclists in the site vicinity could also be sensitive to fugitive dust from the site. It is anticipated that the air intakes of adjacent buildings would be temporarily ducted and protected to minimize the intake of fugitive dust and exhaust fumes during construction activities. As indicated earlier, demolition of the More Hall Annex would be conducted in accordance with applicable requirements of the United States Regulatory Commission and air quality impacts beyond those typical of building demolition would not be anticipated.

The primary types of pollutants expected during construction would be particulates and hydrocarbons. Gasoline or diesel-powered machinery used for demolition, excavation and construction would emit carbon monoxide and hydrocarbons. Such emissions, however, would be temporary in nature and localized to the immediate vicinity of the construction activity.

Trucks transporting excavated earth and/or construction materials would emit carbon monoxide and hydrocarbons along truck routes used by construction vehicles. No construction activity or off-site construction-related truck traffic would be expected to cause violations of applicable ambient air quality standards.

Construction-related emissions associated with the project would comply with all applicable air quality regulations and standards, including those from the Puget Sound Clean Air Agency (PSCAA), and significant air quality impacts would not be anticipated.

Greenhouse Gas Emissions

Earth's Natural Climate and Human Influence on Climate

The global climate is continuously changing, as evidenced by repeated episodes of warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. Scientists have observed, however, an unprecedented increase in the rate of warming in the past 150 years. This recent warming has coincided with the global Industrial Revolution, which resulted in widespread deforestation to accommodate development and agriculture and an increase in the use of fossil fuels which has released substantial amounts of greenhouse gases into the atmosphere.

Greenhouse gases (GHG) such as carbon dioxide, methane and nitrous oxide trap heat in the atmosphere and are emitted by both natural processes and human activities. The accumulation of GHG in the atmosphere affects the earth's temperature. While research has shown that earth's climate has natural warming and cooling cycles, evidence indicates that human activity has elevated the concentration of GHG in the atmosphere beyond the level of naturally occurring concentrations resulting in more heat being held within the atmosphere. The Intergovernmental Panel on Climate Change (IPCC), an international group of scientists from 130 governments has concluded that it is "very likely" (a probability listed at more than 90 percent) that human activities and fossil fuels explain most of the warming over the past 50 years.[2]

The IPCC predicts that under current human GHG emission trends, the following results could be realized within the next 100 years:[3]

- global temperature increases between 1.1 – 6.4 degrees Celsius;
- potential sea level rise between 18 to 59 centimeters or 7 to 22 inches;
- reduction in snow cover and sea ice;
- potential for more intense and frequent heat waves, tropical cycles and heavy precipitation; and
- impacts to biodiversity, drinking water and food supplies.

The Climate Impacts Group (CIG), a Washington-state based interdisciplinary research group which collaborates with federal, state, local, tribal, and private agencies, organizations, and businesses, studies impacts of natural climate variability and global climate change on the Pacific Northwest. CIG research and modeling indicates the following possible impacts of human-based climate change in the Pacific Northwest:[4]

- changes in water resources such as decreased snowpack; earlier snowmelt; decreased water for irrigation, fish and summertime hydropower production; increased conflict over water; and increased urban demand for water.
- changes in salmon migration and reproduction.
- changes in forest growth and species diversity and increases in forest fires; and

---

2 IPCC, Fourth Assessment Report, February 2, 2007.

3 IPCC, Summary for Policymakers, April 30, 2007.

4 Climate Impacts Group, Climate Impacts in Brief, accessed February 7, 2008, http://www.cses.washington.edu/cig/pnwc/ci.shtml.

- changes along the coast such as increased coastal erosion and beach loss due to rising sea levels; increased landslides due to increased winter rainfall, permanent inundation in some areas; and increased coastal flooding due to sea level rise and increased winter streamflow.

Regulatory Context for Global Climate Change

United States Environmental Protection Agency – The United States Environmental Protection Agency (USEPA) is charged with enforcing the Clean Air Act and has established air quality standards for common pollutants. In addition, the USEPA has been directed to develop regulations to address the GHG emissions of cars and trucks. At the time of this writing, however, EPA regulations for GHGs have not yet been developed.

Western Regional Climate Action Initiative – On February 26, 2007, the Governors of Arizona, California, New Mexico, Oregon and Washington signed the Western Climate Initiative (WCI) to develop regional strategies to address climate change. WCI is identifying, evaluating and implementing collective and cooperative ways to reduce greenhouse gases in the region. Subsequent to this original agreement, the Governors of Utah and Montana as well as the Premiers of British Columbia and Manitoba joined the Initiative. The WCI objectives include setting an overall regional reduction goal for GHG emissions, developing a design to achieve the goal and participating in The Climate Registry, a multi-state registry to enable tracking, management, and crediting for entities that reduce their GHG emissions. No regulatory guidance has been provided from WCI to date, however.

On June 8, 2007, Washington Gov. Christine Gregoire and British Columbia Premier Gordon Campbell signed a Memorandum of Understanding to launch a collaborative effort to cap and significantly reduce greenhouse gas emission. No regulatory guidance has been provided from this initiative to date.

State of Washington – In February of 2007, Governor Christine Gregoire signed Executive Order No. 07-02 establishing goals for reductions in climate pollution, increases in jobs, and reductions in expenditures on imported fuel. This statewide effort is intended to address climate change, grow the clean energy economy and move Washington toward energy independence. This executive order directed the Washington departments of Ecology and Community, Trade and Economic Development to lead the "Washington Climate Challenge," a process intended to engage business, community and environmental leaders over the next year. Washington Climate Challenge was directed to consider the full range of policies and strategies that could be adopted to achieve the goals established by the Governor.

In 2007, the Washington legislature passed SB 6001, which among other things, adopted the Governor's Climate Change Challenge goals into statute and created a performance standard for electrical utilities that serve Washington. Utilities may capture and store (sequester) carbon associated with the production of electricity to meet the performance standard. By June 2008, Ecology is to have rules on implementing the standard and how sequestration plans will be approved. No regulatory guidance has been provided from Ecology to date.

In 2008, the Washington Legislature passed E2SHB 2815, the Greenhouse Gas Emissions Bill. While SB 6001 set targets to reduce emissions, the E2SHB 2815 made those firm requirements and directed the state to submit a comprehensive GHG reduction plan to the Legislature by December 1, 2008. As part of the plan, Ecology was mandated to develop a system for reporting and monitoring GHG emissions within the state and a design for a regional multi-sector, market-based system to reduce statewide GHG emissions.

Ecology also issued a memorandum in 2008[5] which stated that climate change and GHG emissions should be included in all State Environmental Policy Act (SEPA) analyses and committed to providing further clarification and analysis tools.

In 2009, Executive Order 09-05 was signed ordering Washington state actions to reduce climate-changing GHG emissions, to increase transportation and fuel-conservation options for Washington residents, and protect the state's water supplies and coastal areas. The Executive Order directs state agencies to: develop a regional emissions reduction program; develop emission reduction strategies and industry emissions benchmarks to make sure 2020 reduction targets are met; work on low-carbon fuel standards or alternative requirements to reduce carbon emissions from the transportation sector; address rising sea levels and the risks to water supplies; and, increase transit options, such as buses, light rail, and ride-share programs, and, give Washington residents more choices for reducing the effect of transportation emissions.

On June 1, 2010, Ecology issued draft guidelines entitled, *Guidance on Climate Change and SEPA*. These draft guidelines included: guidance regarding the types of GHG emissions that should be calculated; a discussion of how to determine if emissions surpass a threshold of "significance"; and, a description of different types of mitigation measures. Guidance was also provided regarding the requirement to discuss the ability of a proposal to adapt to climate changes as a result of global warming. In 2011, Ecology narrowed the focus of the draft guidelines and in its place developed internal guidance for Ecology staff to use when Ecology is the lead agency or an agency with jurisdiction in *Guidance for Ecology Including Greenhouse Gas Emissions in SEPA Reviews* and *SEPA GHG Calculation Tool*. Ecology began using this guidance document in June 2011 and planned to update the document based on feedback from users.

City of Seattle – On December 3, 2007, the Seattle City Council adopted Ordinance 122574 that requires City departments that perform environmental review under the State Environmental Policy Act (SEPA) to evaluate GHG emissions when reviewing permit applications for development. King County began this evaluation in October 2007,

[5] Manning, Jay. RE: Climate Change - SEPA Environmental Review of Proposals, April 30, 2008.

becoming the nation's first local government to officially add GHG emissions to the environmental review of construction projects. Seattle was one of the first cities in the country to require such a review.

The Seattle City Council adopted Comprehensive Plan goals and policies in 2007 related to achieving reductions in GHG emissions. To carry out these goals and policies, assessment of greenhouse gas emissions from proposed development is required. Under this assessment, developers for projects that trigger environmental review are required to identify the climate change impact of their proposals as shown by calculating the GHG emissions. At this point, the legislation does not require changes in the development proposals as a result of the review. Instead, the requirement is a first step toward limiting the potential negative effects of construction projects on the environment by disclosing emissions.

University of Washington – The University of Washington is a signatory on the American College and University Presidents Climate Commitment. The University is also one of the founding partners of the Seattle Climate Partnerships and has prepared an initial quantitative estimate of the University's GHG emissions profile. In October 2007, the University of Washington also released the "2005 Inventory of Greenhouse Gas Emissions Ascribable to the University of Washington" which provided a quantitative estimate of the total GHG emissions produced on the University of Washington Campus.

Existing Greenhouse Gas Emissions – In order to provide a context for GHG emissions associated with the *Computer Science and Engineering II Project*, it is useful to consider the estimated overall emissions. A 2007 study[6] provided the statistics shown in **Table 3.4-1** for GHG for Central Puget Sound, Washington and the United States.

Table 3.4-1

COMPARISON OF GREENHOUSE GAS EMISSIONS

	2005 Population	Estimate of Annual Greenhouse Gas Emissions (tons/year)
United States	296,410,404	7,100,000,000
Washington State	6,256,400	88,000,000
Seattle	573,911	6,600,000

Source: Seattle's Community Carbon Footprint, City of Seattle, October 29, 2007.

Impacts of the Proposed Action

Climate change is a global problem and it is not possible to discern the impact that greenhouse gas emissions from a single development project may have on global climate change.

[6] City of Seattle, Seattle's Community Carbon Footprint, October 29, 2007.

Neither the federal Environmental Protection Agency, State of Washington nor City of Seattle currently have regulations in place to provide guidance on analysis of the impacts of climate change and associated greenhouse gas emissions. For the purposes of discussion of the climate change impacts of the Proposed Action for this EIS, the *SEPA Greenhouse Gas Emissions Worksheet* formulated by King County (see **Appendix C** for the completed worksheet) was used to grossly estimate the emissions footprint of the Proposed Action for the lifecycle of the development[7]; specifically:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (embodied emissions);
- Energy demands created by the development after it is completed (energy emissions); and
- Transportation demands created by the development after it is completed (transportation emissions).

It is anticipated that the proposed development under Alternative 1 would generate GHG emissions associated with construction activities (including demolition), production/extraction of construction materials, energy consumption from construction and operation, and vehicle emissions from associated delivery vehicle trips. **Table 3.4-2** shows the anticipated lifespan emissions and estimated annual emissions associated with the Proposed Action.

Table 3.4-2
GREENHOUSE GAS EMISSIONS – ALTERNATIVE 1

	Square Feet (thousands of sq. ft.)	Lifespan Emissions ($MTCO_2e$)[8]	Anticipated Lifespan	Estimated Annual Emissions ($MTCO_2e$)
Alternative 1	133.7	139,791	62.5	2,237

Source: EA Science, Engineering and Technology, 2015.

Noise

During construction, localized sound levels would temporarily increase in the vicinity of the Alternative 1 site and streets used by construction vehicles accessing the construction site. The increase in sound levels would depend upon the type of equipment being used, the duration of such use, and the proximity of the equipment to the property line. Sound levels within 50 feet of construction equipment often exceed the levels typically recommended for residential and institutional land uses and, in general, decrease at a rate of about 6 dBA for each doubling of distance from the noise source. Average noise levels associated with

---

[7] The King County worksheet was utilized rather than the Washington State Department of Ecology form because the King County Worksheet calculation characteristics most closely reflect those of the Proposed Action

[8] $MTCO_2e$ is defined as Metric Ton Carbon Dioxide Equivalent which is a standard measure of amount of CO2 emissions reduced or sequestered.

various types of construction equipment are listed in **Table 3.4-3**. For a relative comparison, **Table 3.4-4** provides a list of typical sound levels for a variety of activities.

Table 3.4-3
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT[9]

Equipment	Average Noise Level (dBA measured 50 ft. from the equipment)
Dump Truck (15-20 cu.yd. capacity)	91
Scraper	88
Backhoe	85
Concrete Mixer	85
Concrete Pump	82
Air Compressor	81
Bulldozer (D-8)	80
Generator	78
Pump	76

Table 3.4-4
TYPICAL SOUND LEVELS

Noise Source	dB(A)
Aircraft Carrier Flight Deck Operations	140
Threshold of Pain	130-140
Fireworks	130
Jet Takeoff (200 ft. distance	120
Jack Hammer	120
Auto Horn (3 ft. distance)	120
Chain Saw/Noisy Snowmobile	110
Jet Takeoff (2,000 ft. distance	105
Noisy Motorcycle (50 ft. distance)	100
Heavy Truck (50 ft. distance)	90
Busy Urban Street	80
Normal Automobile, Commercial Area	70
Normal Conversation (3 ft. distance)	60
Moderate Rainfall	50
Quiet Residence, Library	40
Bedroom at Night or Whisper	30
Rustle of Leaves	10
Threshold of Hearing	0

Source: EPA, 1978; EPA, 1972

Construction noise would result in temporary annoyance and possibly increased speech interference near the construction site. These impacts would temporarily affect adjacent uses in the site vicinity, particularly academic uses (More Hall, the Mechanical Engineering

9 United States EPA, 1971

Building, the Engineering Annex, and the Paul Allen Center); construction noise may also be perceived by pedestrians in the area, including users of the Burke-Gilman Trail to the east. Construction-related noise would be temporary in nature and could result in temporary impacts to adjacent University uses. Construction noise would be limited to applicable noise levels per the *City of Seattle Noise Code* (SMC 25.08.425). To minimize the potential for construction activities to interfere with teaching and other activities at the adjacent buildings and uses, measures such as limiting the use of higher noise equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting the hours of construction would be implemented. See **Section 3.4.3**, Mitigation Measures, for detail.

Vibration

Operation of heavy construction equipment during construction of the Proposed Action, such as drilling rigs, excavators, and haul trucks, would create waves that radiate along the surface and downward into the earth; the waves dissipate with distance from the source. These surface waves can be felt as ground vibration and create the potential to affect sensitive research uses that employ highly sensitive equipment such as electron microscopy.

Given that the adjacent computer science and engineering programs do not typically employ highly sensitive equipment, vibration conditions at adjacent buildings would be typical of University of Washington construction projects and would not be anticipated to result in significant impacts. However, to the extent feasible, construction activities would utilize practices that would minimize vibration levels, such as the use of sawcutting for concrete removal in lieu of using impact tools.

Trees

The Alternative 1 site contains 60 existing trees, of which 51 would be considered significant trees per the City of Seattle Director's Rule 16-2008. Of these 51 significant trees, 27 trees are considered to be Exceptional per City of Seattle Director's Rule 16-2008. Approximately 18 existing trees would be removed as part of the proposed CSE II Project, including approximately five significant trees and eight Exceptional trees. As part of development, new trees would be planted on the site to replace the existing trees that would be removed during construction. Proposed tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan. Tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on the campus in accordance with typical University procedures.

The landscape design for the proposed CSE II Project under Alternative 1 would be reviewed by the University's landscape architect and University Landscape Advisory Committee, and is intended to protect the existing trees on the site to the extent feasible (see **Figure 2-4** of Chapter 2). The proposed design for the Alternative 1 site would be centered around a new outdoor plaza area that would be located between the CSE II Building and Stevens Way. This new plaza is intended to create a unified CSE Complex with the adjacent Paul G. Allen Center. An enhanced Snohomish Lane pathway would also serve as a prominent onsite feature. The plaza and pathway areas would be composed of new hardscape surfaces with integrated landscaping areas and pedestrian scale lighting; new bicycle parking would also be provided along the plaza area and Snohomish Lane. The north and south edges of the site would include new landscaping and new trees that would be intended to create a buffer between the new building and the existing Mechanical Engineering Building and More Hall.

Alternative 2 – Development of the CSEII Project on Site 16C and Retention of the More Hall Annex

Under Alternative 2, the Computer Science and Engineering II Project would be located on Development Site 16C and would include the retention of the existing More Hall Annex. As indicated in **Chapter 2** of this SEIS, More Hall Annex was originally designed specifically for nuclear reactor purposes, and exhibits characteristics that are substantially different from other academic and office buildings on campus. Given the design challenges of meeting the CSE II program goals on the site while retaining More Hall Annex, two design approaches are analyzed in this SEIS (Scenarios 2.1, and 2.2).

Under Alternative 2 – Scenario 2.1, the More Hall Annex would remain on the site and the CSE II Building would surround the Annex on the north, east and west sides of the More Hall Annex; approximately 30 to 40 feet of separation would be provided between the CSE II Building and More Hall Annex on each side. The two buildings would be connected at the basement level only and the More Hall Annex would be utilized as part of the new CSE II Building for robotics laboratory space and seminar space. Under Alternative 2 – Scenario 2.2, the existing More Hall Annex would be retained on the site and the CSE II Building would be constructed to the north, east and east of the More Hall Annex. The two buildings would be connected at the basement level and Level 1 portion of the CSE II Building and the existing More Hall Annex space would utilized as part of the new building; the basement level of the More Hall Annex would be used for robotics laboratory space, capstone rooms (research/workrooms), and bicycle storage, while the Level 1 portion would be used for a café and capstone room. The CSE II Building would include four and a half stories under both Alternative 2 scenarios.

Construction Activities

Construction activities for the development of the *Computer Science and Engineering II Project* under Alternative 2 would be generally similar to those described for Alternative 1; however, it is anticipated that Alternative 2 would require a lower amount of demolition (primarily due to retention of More Hall Annex) and a larger amount of above-ground construction. The additional above ground construction is primarily due to the fact that the new building would be constructed around More Hall Annex (Scenario 2.1), or to incorporate the existing More Hall Annex (Scenario 2.2).

Demolition activities on the Alternative 2 site would include the demolition and removal of existing surface parking areas, landscaping, trees, and paved driveways/pathways. Grading activities on the site under both scenarios would require approximately 11,300 cubic yards of excavation and 1,115 cubic yards of imported fill (compared to approximately 9,500 cubic yards of excavation and 170 cubic yards of fill under Alternative 1).

Air Quality

Construction activities under Alternative 2 would generate similar types of air pollutants as Alternative 1 and would be associated with fugitive dust from demolition, earthwork/excavation activities, emissions associated with construction vehicles and equipment, as well as other construction-related activities. Because the More Hall Annex building would be retained under Alternative 2, the overall amount of fugitive dust associated with demolition would be less than under Alternative 1, with the overall amount of fugitive dust associated with grading activities being greater than under Alternative 1 due to the larger amount of anticipated excavation. On balance, Alternative 2 would generate similar types of air pollutants as Alternative 1.

Similar to Alternative 1, gasoline or diesel-powered machinery used for demolition, excavation and construction would emit carbon monoxide and hydrocarbons. Trucks transporting excavated earth and/or construction materials would also emit carbon monoxide and hydrocarbons along truck routes used by construction vehicles. Such emissions, however, would be temporary in nature and localized to the immediate vicinity of the construction activity. No construction activity or off-site construction-related truck traffic would be expected to cause violations of applicable ambient air quality standards.

Construction-related emissions associated with the project would comply with all applicable air quality regulations and standards, including those from the (PSCAA) and significant air quality impacts would not be anticipated.

Greenhouse Gas Emissions

Development of the CSEII under Alternative 2 would generate GHG emissions associated with construction activities, production/extraction of construction materials, energy consumption from construction and operation, and vehicle emissions from associated delivery vehicle trips. The CSE II Building under Alternative 2 would be similar in size (approximately 134,000 square feet) and generate similar levels of GHG emissions when compared to Alternative 1; however, GHG emissions associated with construction under the Alternative 2 scenarios would be slightly less than under Alternative 1 due to less demolition.

Noise

Similar to Alternative 1, development on the Alternative 2 site would result in temporary annoyance and possibly increased speech interference near the construction site. Compared to Alternative 1, the level of construction noise associated with demolition would be less due to the retention of More Hall Annex and the level of grading noise would likely be higher due to the additional amount of excavation. The overall level of noise associated with building construction would be similar to that under Alternative 1 due to the similar amount of building construction; noise associated with demolition would be less than under Alternative 1 due to the retention of More Hall Annex. These impacts would temporarily affect adjacent uses in the site vicinity, particularly academic uses such as More Hall, the Mechanical Engineering Building, the Engineering Annex and the Paul Allen Center. As under Alternative 1, construction noise could also be perceived by pedestrians in the area, including users of the Burke-Gilman Trail to the east.

As under Alternative 1, construction-related noise would be temporary in nature and could result in temporary impacts to adjacent University uses. Construction noise would be limited to applicable noise levels per the *City of Seattle Noise Code* (SMC 25.08.425). To minimize the potential for construction activities to interfere with teaching and other University activities at the adjacent buildings and uses, measures such as limiting the use of higher noise generating equipment, ensuring properly sized/maintained mufflers and other silencers, and limiting hours of construction would be implemented. (see **Section 3.4.3**, Mitigation Measures, discussion for further details).

Vibration

Construction activities under Alternative 2 would be generally similar to those described under Alternative 1 (with the exception of lower level of demolition and higher level of excavation under Alternative 2) and it is anticipated that these construction activities would generate vibration levels that would be similar to those described under Alternative 1. Therefore, it is anticipated that potential vibration impacts to surrounding sensitive uses would be similar than under Alternative 1. As described under Alternative 1, any potential significant impacts would be mitigated to the extent feasible through implementation of construction methods to minimize vibration (see **Section 3.4.3**, Mitigation Measures, discussion for further details).

Trees

As stated previously, Site 16C contains 60 existing trees, of which 51 would be considered significant trees per the City of Seattle Director's Rule 16-2008. Of these 51 significant trees, 27 trees are considered to be Exceptional per City of Seattle Director's Rule 16-2008. Proposed tree removal and replacement would be similar to Alternative 1 and would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

The landscape design for the CSE II Project under Alternative 2 would be similar to that described for Alternative 1. The design would be reviewed by the University's landscape architect and the University's Landscape Advisory Committee, and would protect the existing trees on the site to the extent feasible.

Alternative 3 – Development of the CSE II Project on Site 14C

Under Alternative 3, construction activities would include: removal of the existing buildings (University Facilities Building, University Facilities Services Administration Building, and the University Facilities Plant Operations Annex buildings), pavement and landscaping; excavation and grading; and, construction of an approximately 130,000 square foot CSEII building. Existing uses on Site 14C would be relocated prior to construction and could require development or acquisition of new office space to accommodate the displaced uses. Alternative 3 includes two development scenarios: Scenario 3.1 would construct a low-rise building (four levels including a partial basement) in an east-west orientation along the northern portion of the site; and, Scenario 3.2 would construct the CSEII building (seven levels including a partial basement) with a north-south orientation along Stevens Way.

Construction activities for the development scenarios under Alternative 3 would be generally similar to those under Alternative 1, with some differences in the levels of building demolition and grading. Under the Alternative 3 development scenarios, eight buildings on the site (including the University Facilities Building, the University Facilities Services Building, and six University Facilities Plant Operations Annex buildings) would be demolished.

Development on Site 14C under the Alternative 3 development scenarios would require up to approximately 7,500 cubic yards of cut and approximately 350 cubic yards of fill (compared to 9,500 cubic yards cut/170 cubic yards fill and 11,300 cubic yards cut/1,115 cubic yards fill under Alternatives 1 and 2, respectively).

Air Quality

Construction activities under Alternative 3 would generate similar types of air pollutants as under Alternatives 1 and 2, and would be associated with fugitive dust from demolition, earthwork/grading, emissions associated with construction vehicles and equipment, as well as other construction-related activities. The overall amount of fugitive dust associated with the demolition of eight structures under Alternative 3 would be greater than under Alternative 1 (demolition of More Hall Annex) and Alternative 2 (no building demolition). Grading activities on Site 14C under Alternative 3 would require approximately 7,500 cubic yards of cut and approximately 350 cubic yards of fill, somewhat less than under Alternatives 1 and 2.

The UW Club Building, Engineering Library, Loew Hall, HUB and Plants Operations Building could be sensitive to fugitive dust due to their proximity to Site 14C; it is anticipated that the air intakes of adjacent buildings would be temporarily ducted and protected to minimize the intake of fugitive dust and exhaust fumes during construction activities. As under Alternatives 1 and 2, pedestrians and bicyclists in the site vicinity could also be sensitive to fugitive dust from the site.

As under Alternatives 1 and 2, gasoline or diesel-powered machinery used for demolition, excavation and construction would emit carbon monoxide and hydrocarbons. Such emissions, however, would be temporary in nature and localized to the immediate vicinity of the construction activity.

Demolition of existing buildings could potentially result in exposure to hazardous materials that may be located in the existing buildings. In the event that hazardous materials are found onsite, the materials would be treated and/or removed in accordance with all applicable regulations and standards.

Construction-related emissions associated with the project would comply with all applicable air quality regulations and standards, including those from the (PSCAA), and significant air quality impacts would not be anticipated.

Greenhouse Gas Emissions

Development of the CSE II Project under Alternative 3 design scenarios would result in GHG emissions associated with construction materials, energy consumption from construction and operations, and vehicle emissions from associated delivery vehicle trips. Due to the assumed size of the building (130,000 square feet as under Alternatives 1 and 2) it is anticipated that overall GHG emissions under the Alternative 3 design scenarios would be similar to those under Alternatives 1 and 2; however, the greater amount of building demolition under Alternative 3 would result in somewhat higher GHG emissions during construction.

Noise

Similar to Alternatives 1 and 2, development on the Alternative 3 site would result in temporary annoyance and possibly increased speech interference near the construction site. Compared to Alternatives 1 and 2, the level of construction noise associated with demolition would be somewhat greater due to the demolition of eight existing buildings (compared to one under Alternative 1 and none under Alternative 2) and the level of grading noise would likely be less due to the lower amount of excavation. The level of noise associated with building construction would be similar to that under Alternatives 1 and 2 due to the similar amount of building construction. These impacts would temporarily affect adjacent uses in the site vicinity; particularly uses at the UW Club Building, Engineering Library, Loew Hall, HUB and Plants Operations Building. As under Alternatives 1 and 2, construction noise could also be perceived by pedestrians in the area, including users of the Burke-Gilman Trail to the east.

As under Alternatives 1 and 2, construction-related noise would be temporary in nature and could result in temporary impacts to adjacent University uses. Construction noise would be limited to applicable noise levels per the *City of Seattle Noise Code* (SMC 25.08.425). To minimize the potential for construction activities to interfere with office activities at the adjacent buildings, measures such as limiting the hours of construction and the types of equipment used would be implemented (see **Section 3.4.3**, Mitigation Measures, discussion for further details).

Vibration

Construction activities under Alternative 3 would be generally similar to those described for Alternatives 1 and 2 (with the exception of a higher level of demolition and lower level of excavation under Alternative 3), and it is anticipated that these construction activities would generate vibration levels that would be generally similar to those described under Alternatives 1 and 2. Therefore, it is anticipated that potential vibration impacts to surrounding sensitive uses would be similar than under Alternative 1. As described under Alternative 1, any potential significant impacts would be mitigated to the extent feasible through implementation of construction methods to minimize vibration (see **Section 3.4.1**, Mitigation Measures discussion below for further details).

Given that the adjacent service and engineering program uses do not typically employ highly sensitive equipment, vibration conditions at adjacent buildings would be typical of University of Washington construction projects and would not be anticipated to result in significant impacts. However, to the extent feasible, construction activities would utilize practices that would minimize vibration levels (see **Section 3.1.3**, Mitigation Measures, discussion for further details).

Trees

The Alternative 3 site (Site 14C) contains 108 existing trees, of which 93 would be considered significant trees per the City of Seattle Director's Rule 16-2008. Of these 93 significant trees, 32 are considered to be Exceptional per City of Seattle Director's Rule 16-2008. Approximately 56 existing trees would be removed under Alternative 3 - Scenario 3.1, including approximately 28 significant trees and approximately 17 Exceptional trees. Under Scenario 3.2, approximately 27 existing trees would be removed, including 8 significant trees and 13 Exceptional trees.

Under Alternative 3, Scenario 3.1 and 3.2, tree replacement on the site would be designed to meet or exceed the typical University of Washington requirement to provide tree replacement at a 1:1 ratio. If tree replacement at a 1:1 ratio is not possible on the site, additional trees would be planted at an off-site area on the campus in accordance with typical University procedures. Tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and would be in accordance with the University of Washington's Tree Management Plan.

The landscape design for the CSE II Project under Alternative 3 would be similar to that described for Alternatives 1 and 2. The design would be reviewed by the University's landscape architect and Landscape Advisory Committee, and would protect the existing trees on the site to the extent feasible.

Alternative 4 – No Action Alternative

Under Alternative 4, the proposed CSE II Project would not be constructed and no construction-related impacts would occur.

Cumulative Impacts

As indicated in **Chapter 2** (Proposed Action and Alternatives) of this SEIS, there are several known separate projects on the University of Washington campus and in the vicinity of Site 16C (Alternative 1 and Alternative 2) and Site 14C (Alternative 3) where certain phases of construction could occur during anticipated construction of the CSEII Project. These separate projects include: UW Burke-Gilman Trail Improvement; UW Police Department Building; UW Southwest Campus Central Utility Plant; UW Rainier Vista/Montlake Triangle; UW Medical Center Phase 2; Sound Transit University Station; UW Life Sciences; UW North Campus Student Housing; and, Bryant Building Park (refer to **Chapter 2**, Proposed Action and Alternatives, for additional detail on these separate projects and **Figure 2-9** for a map of the separate projects in the site vicinity).

Temporary construction activity associated with any of these separate actions/projects will occur in compliance with applicable University of Washington, City of Seattle, and other relevant regulations. Significant cumulative construction-related impacts are not anticipated because each project has its own separate construction schedule and haul routes that are specific for each project site. Additionally, each project will prepare a Construction Management Plan (CMP) to control and mitigate potential transportation issues during the construction process.

Air Quality

Construction-related air pollutants and emissions associated with the development of the proposed CSEII Project would be generated during the same general timeline as air pollutants and emissions associated with some of the separate projects in the site vicinity. Construction-related air pollutants and emissions from the CSEII would combine with pollutants and emissions from separate projects in the site vicinity to cumulatively increase emissions on a temporary basis in the general area.

However, it is anticipated that potential air quality impacts associated with construction would be temporary in nature and impacts would primarily be localized to the immediate vicinity of the construction activity at the alternative sites: for Site 16C (Alternative 1 and Alternative 2) the closest sensitive receivers include More Hall, the Mechanical Engineering Building, the Engineering Annex, and the Paul Allen Center for Computer Science & Engineering; and, for Site 14C (Alternative 3) the closest sensitive receivers include UW Club Building, Engineering Library, Loew Hall, HUB and Plants Operations Building. Cumulatively, no significant short-term or long-term impacts on air quality would be anticipated with the construction of the known separate projects together with the CSEII Project.

Greenhouse Gas Emissions

As described above, it is not possible to determine the impact that a single development project may have on global climate change. Nonetheless, King County's SEPA Greenhouse Gas Emissions Worksheet was used to estimate the GHG emissions for the lifecycle of the CSE II Project (see **Appendix C** for further details).

Noise

Noise associated with the construction of the CSE II Project and other separate projects in the area would result in a cumulative increase in noise in the area and could create a temporary annoyance and possible increased speech interference. These impacts would temporarily affect adjacent uses in the site vicinity, particularly uses that are the most proximate to the construction areas. Noise impacts associated with construction activities on the alternative sites would primarily be localized to the immediate vicinity surrounding the individual sites; to the extent that construction sites are located adjacent to each other they could result in a cumulative increase in noise for nearby uses. Noise associated with construction-related traffic would result in a cumulative increase in noise along area roadways as additional construction traffic is combined with existing traffic in the area. Measures such as limiting the hours of construction, implementing a Construction Management Plan, and the types of equipment used would be implemented for each individual project to reduce the potential for noise impacts. No significant short-term or long-term noise impacts would be anticipated with the construction of the known separate projects together with the Proposed Action.

Vibration

Construction-related vibration associated with the development of the CSE II Project would be generated during the same general timeline as vibration associated with separate projects in the site vicinity. However, it is anticipated that potential vibration impacts associated with construction would be temporary in nature and impacts would primarily be localized to the immediate vicinity of each individual construction site (for Site 16C the closest sensitive receivers include More Hall, the Mechanical Engineering Building, the Engineering Annex, and the Paul Allen Center for Computer Science & Engineering; and, for

Site 14C the closest sensitive receivers include UW Club Building, Engineering Library, Loew Hall, HUB and Plants Operations Building). Because the other separate projects in the site vicinity are not located immediately adjacent to the alternative sites, it is anticipated that no significant short-term or long-term cumulative impacts from vibration would occur with the construction of the known separate projects, together with the development of the proposed CSEII.

Trees

Tree removal associated with the construction of the CSE II Project and other separate projects in the area would result in a cumulative loss of trees within the area. It anticipated that applicable tree removal and replacement standards would be followed for each project, as applicable. Tree removal and replacement would be provided on each individual project site and would be intended to meet or exceed the City of Seattle's tree replacement requirements and be in accordance with the University's Tree Management Plan. With the implementation of mitigation measures (e.g., tree replacement), significant construction-related tree impacts on a cumulative basis would not be anticipated.

3.4.3 Mitigation Measures

The following measures would be implemented to mitigate potential construction impacts from the development of the proposed CSE II Project. These mitigation measures would be applicable for Alternatives 1, 2 and 3.

Air Quality

The following measure would be implemented to mitigate potential construction-related air quality impacts from the development of the CSE II Project.

- Construction-related emissions associated with the project would comply with all applicable air quality regulations and standards, including those from the (PSCAA).

- Site development would adhere to the PSCAA regulations regarding demolition activity and fugitive dust emissions, including: wetting of exposed soils, covering or wetting of transported earth materials, washing of truck tires and undercarriages prior to travel on public streets, and prompt cleanup of any materials tracked or spilled onto public streets.

- The University and project contractor would coordinate to temporarily duct and protect air intakes of adjacent buildings to minimize the potential for the intake of fugitive dust and exhaust fumes.

- A temporary asphalt roadway would be provided through either Site 16C or 14C to provide access for construction vehicles and equipment which would reduce the amount of dust and dirt that would be generated by construction vehicles and equipment accessing the site.

Greenhouse Gas Emissions

The following measure would be implemented to mitigate potential GHG emission impacts from the development of the CSE II Project.

- Continued implementation of the University's Transportation Management Plan (TMP) would reduce vehicle trips to the campus (including the CSE II at the alternative sites), thereby reducing GHG emissions. Implementation of a Construction Management Plan would also help to control transportation issues during construction and could reduce construction-related GHG emissions.

Noise

Because of the proximity of academic and other University uses near the alternative sites, the University agrees that the mitigation of construction-related noise impacts is important and they are committed to the measures listed below. The following measures would be implemented to mitigate potential construction-related noise impacts from the development of the CSE II Project.

- Construction noise would limited to applicable noise levels per the *City of Seattle Noise Code* (SMC 25.08.425).
- Placement of materials and backing up of trucks could be done without warning beepers (with a flagger walking behind the vehicle).
- Alternative white noise backup warning systems would be installed (as allowed by Washington State construction safety regulations, WAC 296-155-605).
- Low noise portable air compressors would be used where feasible.
- Nighttime activities would not exceed allowable noise levels.
- The use of noise impact-type equipment, such as pavement breakers, pile drivers, jackhammers, sand blasting tools, and other impulse noise sources would be limited to work activity between 8 AM and 5 PM on weekdays.
- Whenever appropriate, hydraulic impacts tools with electric models would be substituted to further reduce demolition and construction-related noise.
- Loud talking, music, or other miscellaneous noise-related activities would be limited.
- Construction noise would be reduced with properly sized and maintained mufflers, engine intake silencers, engine enclosures, and turning-off idling equipment.

- Truck haul routes would be jointly developed by the UW, SDOT and DPD and approved by SDOT.

Vibration

The following measures would be implemented to mitigate potential construction-related vibration impacts from the development of the CSE II Project.

- To the extent feasible, construction activities would utilize practices that would minimize vibration, such as the use of sawcutting for concrete removal in lieu of using impact tools.
- Orientation would be provided for all construction workers to inform them of the importance of minimizing impacts to adjacent buildings, including vibration.
- Advanced notification could be provided to surrounding buildings and uses to inform them of construction activities that would cause vibration (e.g., drilling of soldier piles). Early notification would allow surrounding uses to prepare in advance of potential vibration activities.

Trees

The following measure would be implemented to mitigate potential construction-related tree impacts from the development of the CSE II Project.

- Tree removal and replacement would be intended to meet or exceed the City of Seattle's tree replacement requirements and be in accordance with the University's Tree Management Plan.

3.4.4 Significant Unavoidable Adverse Impacts

Construction of the proposed CSE II Project under the SEIS Alternatives (Alternatives 1, 2 and 3) would result in some construction-related air quality, GHG emissions, noise, vibration, and tree impacts that would be unavoidable with the proposed project. However, with the implementation of proposed mitigation measures, construction activities would not be anticipated to result in significant impacts to surrounding uses.

CHAPTER 4

References

CHAPTER 4
REFERENCES

Climate Impacts Group. *Climate Impacts in Brief. http://www.cses.washington.edu/cig/pnwc/ci.shtml*

City of Seattle. *Comprehensive Plan – Toward a Sustainable Seattle.* December 13, 2004.

City of Seattle. *Director's Rule 16-2008: Designation of Exceptional Trees*. Department of Planning & Development. April 1, 2009.

City of Seattle. *City of Seattle Municipal Code*. http://clerk.ci.seattle.wa.us/~public/code1.htm.

City of Seattle. *Seattle's Community Carbon Footprint*. October 29, 2007.

City of Seattle. *University Community Urban Center Plan*. August 29, 1998.

Historical Research Associates, Inc. *Archaeological Background Record Search for the Computer Science and Engineering Facility on the University of Washington Campus*. June 2015.

Intergovernmental Panel on Climate Change (IPCC). *Fifth Assessment Report*. November 2014.

Intergovernmental Panel on Climate Change (IPCC). *Fifth Assessment Report - Summary for Policymakers*. November 2014.

Johnson Partnership. *More Hall Annex – Historic Resources Addendum*. April 2015.

Manning, Jay. *Ecology Memo RE: Climate Change – SEPA Environmental Review Proposals*. April 30, 2008.

Tree Solutions, Inc. *Tree Inventory and Assessment – UW Computer Science and Engineering Building – Site 14C*. August 4, 2015.

Tree Solutions, Inc. *Tree Inventory and Assessment – UW Computer Science and Engineering Building – Site 16C*. May 15, 2015.

University of Washington. *Campus Master Plan – Seattle Campus (CMP – Seattle)*. 2003.

University of Washington. *Campus Tree Care Plan.*

University of Washington. *Department of Computer Science and Engineering Website*: http://www.cs.washington.edu/. Accessed 2015.

University of Washington. *Transportation Management Plan (TMP)*. 2003

URS. *Computer Science and Engineering II Project – Phase I Environmental Site Assessment.* May 15, 2015.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Prepared by Bolt, Beranek and Newman (Contract 68-04-0047). December 31, 1971.

U.S. Environmental Protection Agency; Office of Noise Abatement & Control. *Noise Pollution*. 1972.

U.S. Environmental Protection Agency; Office of Noise Abatement & Control. *Noise: A Health Problem*. 1978.

APPENDIX A

Distribution List

	Everyone gets a letter, +	Organization	First Name	Last Name	Title or Dept	Address	PO Box	City	State	Zip
		Government Agencies								
1	1 CD + SEPA Reg + Description + Public Notice	Dept. of Planning & Development	SEPA	Public Info Center	City of Seattle	700 - 5th Ave	PO Box 34019	Seattle	WA	98124-4019
2	1 CD + HARDCOPY	University Dist. Comm Srvc Cntr				4534 University Way NE		Seattle	WA	98105
3	1 CD + SEPA Reg + Description + Public Notice	SEPA Center			Dept of Natural Resources		PO Box 47015	Olympia	WA	98504-7015
4	2 CDs + 1 HARDCOPY + SEPA Reg + Description + Public Notice	Dept. of Ecology SEPA Unit			Environmental Review Section		PO Box 47703	Olympia	WA	98504
5	CD	Seattle Fire Department			Fire Chief	301 Second Ave S		Seattle	WA	98104
6	CD	Environmental Protection Agency	Region X	Environmental Impact	Evaluation Branch	1200 - Sixth Ave		Seattle	WA	98104
7	CD	Seattle & King County - Public Health			Director	401 - 5th Ave., Suite 1300		Seattle	WA	98104-2674
8	CD	Seattle City Light			Environ. & Safety Division	700 - 5th Ave, # 3200	PO Box 34023	Seattle	WA	98104-4023
9	CD	Sound Transit Link	Perry	Weinberg	Director, Office of Environmental Affairs and Sustainability and Senior Legal Counsel	401 S. Jackson St	Union Station	Seattle	WA	98124-4019
10	CD + HARDCOPY	Dept. of Planning & Development	Stephanie	Haines			PO Box 34019	Seattle	WA	98124-4019
11	CD	King County Metro Transit	Mike	Usen	Senior Environmental Planner	201 S. Jackson St.	MS KSC-TR-0431	Seattle	WA	98104-3856
12	CD	Puget Sound Clean Air Agency			Exec. Director	1904 Third Ave. #105		Seattle	WA	98101-3317
13	CD	WA St. Dept. of Transportation	Ramin	Pazooki			PO Box 330310	Seattle	WA	98133-9710
14	CD	Dept. of Planning & Development	Cliff	Portman			PO Box 34019	Seattle	WA	98124-4019
15	CD	Seattle Public Utilities	Jalainne	Madura	SEPA Coordinator	700 - 5th Ave., 44th FL	PO Box 34018	Seattle	WA	98124-4018
16	CD	Dept. of Neighborhoods	Steve	Sheppard	Seattle Municipal Tower	700 - 5th Ave, #1700	PO Box 94649	Seattle	WA	98124
17	CD	Dept. of Planning & Development	Diane	Sugimura	City of Seattle		PO Box 34019	Seattle	WA	98124-4019
18	CD	Muckleshoot Indian Tribe	Isabel	Tinoco	Dir. Of Nat. Res., Fisheries Dept	39015 - 172nd Ave SE		Auburn	WA	98002
19	CD	Office of Archeology & Hist. Preservation	Russell	Holter	Preservation Design Reviewer	1063 S. Capital Way, #106	PO Box 48343	Olympia	WA	98504-8343
20	CD	Seattle Dept of Transportation	Goran	Sparrman	Interim Director		PO Box 34996	Seattle	WA	98124-4996
21	CD	Seattle Dept of Parks & Recreation	Christopher	Williams	Superintendent	100 Dexter Ave N		Seattle	WA	98109-5199
22	CD	Seattle Police Department					PO Box 34986	Seattle	WA	98124-4986
		Community Clubs								
23	CD	Hawthorne Hills Community Council								
24	CD	Laurelhurst Community Club	Jeannie	Hale		3425 W. Laurelhurst Drive NE		Seattle	WA	98105
25	CD	Wedgwood Community Council		President		PO Box 15770		Seattle	WA	98115
26	CD	Eastlake Community Council	Owen	Reese		117 E. Louisa St., #1		Seattle	WA	98102
27		Eastlake Community Council	Zac	Eskenazi						
28	CD	The Ave Group	Patty	Whisler		6349 Sand Point Way NE		Seattle	WA	98115
29	CD	View Ridge Community Club			President		PO Box 15218	Seattle	WA	98115-0218
30	CD	Montlake Community Club				1618 E. Calhoun		Seattle	WA	98112
31	CD	Northeast District Council				4534 University Way		Seattle	WA	98105
32	CD	Ravenna Eckstein Comm Ctr				6535 Ravenna Ave NE		Seattle	WA	98115
			Ted	Hunter	tph@soundlowcenter.com					
		CUCAC								

Revised 3/28/2014

33	CD	University Park Community Club	Ruedi	Risler	risler@uw.edu	5256 - 19th Ave NE		Seattle	WA	98105
34	CD	Wallingford Community Council	Mark	Christiansen	mwchristiansen@gmail.com	3933 Bagley Avenue		Seattle	WA	98105
35	CD	University Park Community Club	Barbara	Quinn	Barbara_Quinn@gmail.com	5264 16th Ave NE		Seattle	WA	98105
36	CD	UW Faculty Senate Representative	Ashley	Emery	Professor, UW Mech. Eng		Box 352600			
37	CD	University Dist. Comm. Council	Matthew	Fox	mattfoxseattle@hotmail.com	c/o 4534 University Way NE		Seattle	WA	98105
38	CD	University Dist. Comm. Council	Jorgan	Bader	Alternate					
39	CD	Ravenna Bryant Community Assoc	Brett	Frosaker	bforsaker@gmail.com	7046 - 19th Ave NE		Seattle	WA	98115
40	CD	Montlake Community Club	Lionel	Job	lnljob@gmail.com	2016 23rd Ave		Seattle	WA	98122
41	CD	Montlake Community Club			Alternate					
42		Laurelhurst Community Club								
		Alt Laurelhurt Community Club	Heather	Newman		3503 NE 44th Street		Seattle	WA	98105
43	CD	Laurelhurst Community Club	Jean	Amick	jeangamick@gmail.com	3008 Laurelhurst DR NE		Seattle	WA	98105
44		Laurelhurst Community Club	Jeannie	Hale		3425 W. Laurelhurst DR NE		Seattle	WA	98105
45	CD	UW Staff Representative	Jan	Arntz			Box 352205			
		UW Staff Representative	Kerry	Kahl	Senior Director, Enterprise Risk Mngment	B36 Gerberding	Box 351248			
46	CD	Roosevelt Neighbor's Association	Dave	Eckert	david@eskimo.com	6207 12th Avenue NE		Seattle	WA	98105
47	CD	Roosevelt Neighbors Alliance	Eric	Larson		5015 - 9th Ave NE		Seattle	WA	98105
48	CD	U-District Partnership	Douglas (Doug)	Campbell		4108 University Way NE		Seattle	WA	98105
		U-District Partnership	Louise	Little	CEO, University Bookstore	4326 University Way NE		Seattle	WA	98105
49	CD	UW At-large Representative	Alex	Bolton		Box 351271		Seattle	WA	98105
50	CD	Portage Bay Roanoke Community Council	Betty	Swift		1213 E. Shelby St., Slip 15		Seattle	WA	98102
51	CD	Staff Alt	Kerry	Kahl			Box 351248	Seattle	WA	
52	CD (2nd address)	Staff At Large - Alt	Ray	Larson			Box 352166	Seattle	WA	
53	CD	GPSS Representative	Emma	Slager	GPSS Representative	ejslager@uw.edu	Box 352238			
		GPSS Representative-Tertiary Contact	Austin	Wright-Pettibone	Tertiary Contact					
54	CD	UW Student Representative	Shivani	Changela changela@uw.edu	Dir. Of Comm. Relations	Husky Union Building 121		Seattle	WA	98195
55	HARDCOPY (PAPER ENV)	Eastlake Community Council	Chris	Lehman	Alternate	2370 Yale Avenue E		Seattle	WA	98102-3310
		Eastlake Community Council	David	Gee						
		Libraries								
56	CD + HARDCOPY	Seattle Public Library	Montlake	Branch		2401 - 24th Ave E.		Seattle	WA	98112
57	CD + HARDCOPY	Seattle Public Library	University	Branch		5009 Roosevelt Way NE		Seattle	WA	98105
58	CD + HARDCOPY	Seattle Public Library	Central	Library	Documents Dept.	1000 Fourth Ave		Seattle	WA	98104-1193
59	CD + HARDCOPY	UW Health Sciences Library					Box 357155			
60	CD + HARDCOPY	UW Suzzalo Library	Tom	Wallace	Reference Division		Box 352900			
61	CD + HARDCOPY	UW Suzzalo Library	Carla	Rickerson	NW Collection		Box 352900			
		University of WA								
62	CD + V'Ella letter	Office of Regional Affairs	Theresa	Doherty			Box 351243			
63	CD + V'Ella letter	Office of Planning & Budgeting	Kristine	Kenney	University Landscape Architect		Box 359445			
64	CD + V'Ella letter	College of Built Environments	John	Schaufelberger	Dean		Box 355726			

65	CD + V'Ella letter	Facilities Services	Charles	Kennedy	Assoc. VP		Box 352215
66	CD + V'Ella letter	Office of Planning & Budgeting	Rebecca	Barnes	University Architect		Box 359445
67	CD + V'Ella letter	University Police	John	Vinson	Chief		Box 355200
68	CD + V'Ella letter	Office of Environmental Stewardship and Sustain	Claudia	Frere	Manager		Box 351248
69	3 copies of everything + 3 CDs + 3 HARDCOPIES	CPO	Jan	Arntz	Environmental Planner		Box 352205
70	CD	Facilities Services	John	Chapman			Box 352160
71	LETTER only	CPO	Richard	Chapman	Assoc. VP		Box 352205
72	CD	Real Estate Office	Jeanette	Henderson	Director		Box 359446
73	CD	Office of Regional Affairs	Aaron	Hoard	Deputy Director		Box 351243
74	CD	CPO	Alan	Nygaard	Director, Business Services		Box 352205
75	CD	CPO	John	Palewicz	Director		Box 352205
76	CD	CPO	Steve	Tatge	Director		Box 352205
77	CD	AG	Quentin	Yerxa	Assistant Attorney General		Box 359475
78	CD	Parking Services					Box 351105
79	CD	Engineering Services					Box 352165
80	CD	Facilities Services					Box 354285
81	CD + HARDCOPY + SEPA Reg + Description + Public Notice	SEPA Public Information Center			Ofc of Pub. Rec & Open Pub. Mtgs		Box 354997
		Newspapers					
	Email Ad letter + Notice	Seattle Times		Don't print these labels			
	Email Ad letter + Notice	Daily Journal of Commerce		Just email the papers w/			
	Email Ad letter + Notice	UW Daily		their personalized letter			
	Email Ad letter + Notice	University Week		and the Public notice			
	Email Ad letter + Notice	UW Tacoma Ledger					
	Email Ad letter + Notice	UW Bothell Husky Herald					
		Others					
		See attached list from Jan specific to a job					
	Leave these notes here to jog Jan's memory re: who needs to receive what, but these will be entered in a separate list	Clients Surrounding Uses/Depts Committee Members CPO Director and Unit Manager Businesses Architects? Etc.					
		SEPA Advisory Committee					
82	CD	SEPA Advisory Committee Member	Placeholder	Don't send w/o a name	ASUW Representative	1 already sent to ASUW	Box 352238
83	CD	SEPA Advisory Committee Member	Rob	Lubin			Box 355842

Revised 3/28/2014

84	CD	SEPA Advisory Committee Member			ASUW	Box 352238	
85	CD	SEPA Advisory Committee Member	John	Shaheen		Box 355212	
86	CD (2nd copy - don't send)	SEPA Advisory Committee Member	Kristine	Kenney		Box 359445	
87	CD	SEPA Advisory Committee Member	Dave	Lundstrom	Mgr., Environmental Program Office	Box 354110	
88	CD	SEPA Advisory Committee Member	Dave	Ogrodnik		Box 352165	
89	CD	SEPA Advisory Committee Member	Frieda	Taub		Box 355100	
90	CD	SEPA Advisory Committee Member	Jane	Koenig		Box 357234	
91							
		Additional Notification					
		See tabs for specific Project additions					

Members:

Aditya Ganapathiraju	ag7@uw.edu
Afredia Blakey-Vinson	alvinson@uw.edu
Alan Nygaard	anygaard@uw.edu
Alex Danilchik	alexd@uw.edu
Alex Hansen	ahansen@uw.edu
Ali Ferdos	iden@uw.edu
Amanda Paye	apaye@uw.edu
Andrew Phillips	dylips@yahoo.com
Andrew Phillips_1	aphillips@smrachitects.com
Ashley Kangas	akangas@uw.edu
ASUW	asuwpres@uw.edu
Barry Frost	bfrost@uw.edu
Benester Fields	bfields@uw.edu
Bill Earhart	bearhart@uw.edu
Bob Scott	bjs24@uw.edu
Cassie Atkinson-Edwards	cbermel@uw.edu
Charles Kennedy	kennec@uw.edu
Chris Coyle	ccoyle@uw.edu
Chris Marlow	chris@realty.net
Chris Moore	cmoore@preservewa.org
Chris Niblack	cniblack@uw.edu
Christina Byrne	cbyrne@uw.edu
Dale Baxmann	dbaxmann@uw.edu
Damon Fetters	dfetters@uw.edu
Dan Dembiczak	ddd1@uw.edu
David Erickson	suppo@uw.edu
David Girts	dgirts@uw.edu
David Rose	daverose@uw.edu
Dawn Lehman	delehman@uw.edu
Dayna Cole	dmcole@uw.edu
Debra Hanna	hannad3@uw.edu
Dennis Fields	dfields@uw.edu
Dr. Eugene Normand	seehuge@aol.com
Ed Lazowska	lazowska@cs.washington.edu
Eddy Jobe	eddyjobe@uw.edu
Elise Perachio	eperdan@uw.edu
Eugenia Wood	eugeniaw@uw.edu
Eve Riskin	eriskin@uw.edu
Flo Lentz	flo.lentz@4culture.org
Gordon Gresh	ggresh@uw.edu
GPSS	gpss@uw.edu
GPSS_1	gpsspres@uw.edu
Greg Walton	gwalton@gmail.com
Gwyn Hinton	ghinton@uw.edu
Hank Levy	levy@cs.washington.edu
Howard Nakase	hmnakase@uw.edu
Jack Ross	jwross@uw.edu
Jeffrey Ochsner	jochsner@uw.edu
Jenelle Ebisu	nellie@uw.edu
Jennie Koenig	jennik6@uw.edu
Jennifer Ott	friends@seattleolmsted.org

Jennifer Ott_1	jenniferott@earthlink.net
Jeremy Park	parkj@uw.edu
Jim Fahey	jimfahey@apl.washington.edu
Joan Mraz	mraz@ips.net
Joan Mraz_1	rvhsoffice@aol.com
Jodee Fenton	pacificnwhistorians@gmail.com
John Chapman	jchapman@uw.edu
John Martin	jtmartin@uw.edu
Johnny Young	johnnyy@uw.edu
Joles Tahara	jtahara@uw.edu
Jon Marmor	jmarmor@uw.edu
Josh Kavanagh	joshkav@uw.edu
Jude Van Buren	judev@uw.edu
Judy Barbour	judybee42@gmail.com
Judy Mahoney	jkm7@uw.edu
Julie K. Stein	jkstein@uw.edu
Julie Koler	julie.koler@kingcounty.org
Karen Gordon	karen.gordon@seattle.gov
Kathleen Newell	newell@ocean.washington.edu
Kji Kelly	kjik@historicseattle.org
Knute Berger	knute.berger@crossout.com
Kristine Kenney	kkenney@uw.edu
Lauren Adams	lb29@hfs.washington.edu
Lauren Fortune	laurenf@uw.edu
Lyndsey Cameron	lyndsey2@uw.edu
Marcia Killien	secfac@uw.edu
Mark Kirschenbaum	markki@uw.edu
Marty Nolan	uwlib-facilities@uw.edu
Meegan Amen	meegan@uw.edu
Michael Glidden	glidden@uw.edu
Michele Jacobs	mjacobs@uw.edu
Michele Santos	msantos4@uw.edu
Mike Bragg	mbragg@uw.edu
Neal Johnson	neal@atmos.washington.edu
Norm Arkans	arkans@uw.edu
Oliver Dunagan	oliverd1@uw.edu
Patrick Gibbs	pjgibbs@uw.edu
Paul Beame	beame@uw.edu
Paul Zuchowski	badgers@uw.edu
Quentin Yerxa	quentiny@uw.edu
Rebecca Barnes	rgbarnes@uw.edu
Rich Christie	richc@uw.edu
Rich Christie_1	christie@ee.washington.edu
Rosa Alvarez	rosaa2@uw.edu
Ryan Hawkinson	rahawkin@uw.edu
Sally Morgan	slm@uw.edu
Santosh Devosia	sdcoeadr@uw.edu
Sarah Fisken	sfisken@uw.edu
Sean Ferris	ferris3@uw.edu
Sean Yeung	jsean@uw.edu
Sharon Weber	sweber@uw.edu
Sheila Donavon	sdonavon@uw.edu
Stacia Green	greens6@uw.edu

Sue Chen	suechen@uw.edu
Than Htwe	htwet@uw.edu
Theresa Doherty	tdoherty@uw.edu
Tom Ward	tomward@uw.edu
Tracy Erbeck	tracey@cs.washington.edu
Treg Oistad	tregger@uw.edu
UW Professional Staff Organization	psoboard@uw.edu
Victor Balta	balta@uw.edu
Yen Cone	ycone@uw.edu

APPENDIX B

Historic and Cultural Resources Report

Historic Resources Addendum – The Johnson Partnership

Cultural Resources Report – Historical Research Associates, Inc.

APPENDIX B

Historic Resources Addendum

More Hall Annex

Historic Resources Addendum
University of Washington, Seattle, WA
August 2008, updated April 2015

Prepared by:
The Johnson Partnership
1212 NE 65th Street
Seattle, WA 98115-6724
206-523-1618, www.tjp.us

TABLE OF CONTENTS

List of Figures – Appendix A

List of Figures – Appendix B (2015 Condition Photographs)

More Hall Annex
Historic Resources Addendum

1. INTRODUCTION

1.1 July 2008 Introduction

This report provides information regarding the architectural design and historical significance of the More Hall Annex, formerly known as the Nuclear Reactor Wing of the Engineering Building. The building is located on the University of Washington in Seattle, Washington. The Johnson Partnership prepared this report at the request of the University of Washington, based on the criteria for a Historic Resources Addendum (HRA), as described in the approved *2003 University of Washington Master Plan-Seattle Campus*.

Larry E. Johnson, AIA, principal of The Johnson Partnership, 1212 N.E. 65th Street, Seattle, WA, completed research and development of this report during June and July, 2008. Steve Sand, AIA, provided historic research assistance. Research included review of documentation from the University of Washington's Capital Project Office archives. Other research was undertaken at the University of Washington Special Collections Library, the College of Architecture and Urban Planning's Library and Visual Resources Collection's digital image database, the Seattle Public Library, and the Museum of History and Industry.

1.2 April 2015 Introduction

This report has been updated to reflect the subject building's listing in the National Register of Historic Places on July 24, 2009. The building was also listed on the Washington State Heritage Register. Please see Appendix 2, Figures 1-6 for updated condition photographs of the building.

2. Property Data

Common/Historic Building Name: More Hall Annex, Nuclear Reactor Building/Nuclear Reactor Wing, Mechanical Engineering Building

Address: 3785 Jefferson Road NE

Location: University of Washington

Date of Construction: 1961

Original/Present Use: Nuclear Reactor Research and Education/Vacant

Original/Present Owner:

University of Washington
Capital Projects Office
University Facilities Building
Box 352205
Seattle, WA 98195

Original Designers:

Architects: The Architect Artist Group (TAAG)—Wendell Lovett, Daniel Streissguth, and Gene Zema

Collaborative Artist: Spencer Moseley

Landscape Architect: Robert Chittock

Structural Engineer: Gerard Torrence

Mechanical Engineer: Richard Stern and Robin Towne

Electrical Engineer: Thomas Sparling

General Contractor: Jentoft & Forbew

Building Size: 7595 sq. ft.

3. Architectural Description

3.1 Location

The More Hall Annex is located in what is considered the east-central segment of the University of Washington's Seattle Campus. The building lies in a cluster of multi-story academic buildings roughly between the Drumheller Fountain on the west and the Edmunson Pavilion down slope and to the east. *See Figure 1.*

3.2 Site Context

The existing University of Washington Seattle Campus site was acquired in 1884, as a 580-acre property north of the City of Seattle's central business district and adjacent to Lake Washington. Several master plans and the 1909 Alaska, Yukon, and Pacific Exposition (AYP) have organized the campus and its collection of academic, administrative, and utility buildings, stylistically ranging from historically-based styles such as Collegiate Gothic, French Renaissance, and Romanesque, to contemporary buildings with late Art Deco, International, Brutalist, or Post-modern stylistic intent.

The More Hall Annex site lies within a cluster of academic engineering or science buildings. The site is adjacent to More Hall (1946, Bebb & Jones with Leonard Bindon, Associates) to the south and the Mechanical Engineering Building (1959, Carlson, Elly & Grevstad) and Engineering Annex (1909) to the north. Both More Hall and the Mechanical Engineering Building are four-stories tall and are constructed with brick cladding with cast stone accents primarily used around windows and entries and can be considered to be built in the Modern/Institutional style. The Engineering Annex is one of the few remaining buildings constructed during the 1909 AYP Exposition. On the western side of More Hall facing Stevens Way is a statue of James J. Hill (1909, Finn H. Frolich), the man behind the Great Northern Railway's expansion into the Northwest. Across Stevens Way, directly to the west of the subject site lies the five-story tall Paul G. Allen Center for Computer Sciences and Engineering (1948, Paul Thiry; 1972 addition, Kallmann McKinnell & Wood; 1999 addition, Mahlum & Nordfors). The University's Power plant (1909, Howard & Galloway; 1999-2000, Bouillon Christofferson and Parsons Brinkerhoff) is located down slope and to the northeast of the subject site. A vista overlooking the Edmunson Pavillion (1928, Bebb & Gould; 1939, Bebb & Jones; 1969, John Morris & Associates; 1980, Decker, Barnes, Bobbs, Fukui; 2000, Loschy, Marquart & Nesholm), Husky Stadium (1920, Bebb & Gould; 1950 addition, George W. Stoddard and Associates; 1988, Skillings Ward Berkshire, engineers, with NBBJ architects), Lake Washington, and the Cascade Mountains opens up across the site as the subject site and land eastward of the site slope downward. Pathways through the site provide access over a former railway right-of-way, now Jefferson Road, to Mason Road, and to the southernmost of three pedestrian overpasses over Montlake Boulevard NE, a major north/south arterial separating the main campus from the lower eastern campus' athletic facilities and Lake Washington. The 2003 University of Washington Plan indicates an underground building may occupy the subject site in the future. *See Figure 2.*

3.3 Site

The More Hall Annex was constructed between 1960 and 1961, to house a small research nuclear reactor associated with the University of Washington's Department of Mechanical Engineering, and was sited adjacent to the other engineering buildings. The More Hall Annex site is primarily shaped by Stevens Way on the west, a steep slope to the east, and the adjacent More Hall and the Mechanical Engineering Building and Engineering Annex on the south and north respectively. The northern wall of More Hall and the southern walls of the Mechanical Engineering Building and Engineering Annex angle outward from Stevens Way approximately 39° creating a circle segment, or roughly trapezoidal site, measuring 165 feet wide along Stevens Way, extending eastward approximately 300 feet, and measuring approximately 340 feet wide at its eastern end. The site slopes approximately 16 feet from Stevens downward to the former railroad right-of-way, now Jefferson Road, with 12 feet of the slope on the site's eastern side. The More Hall Annex is located on the southeastern corner of the site, partially buried in the slope. This orientation creates an expanding eastward vista toward the University's athletic complex, Lake Washington, and the Cascade Mountains, from Stevens Way and the upper portion of the site, primarily across a portion of the lower plaza on the northern side of More Hall Annex. *See Figure 3.*

Pedestrian access to the site is primarily from Stevens Way via a concrete walkway slightly to the north of the center of the site and flanked by lawn on the south and planting beds on the north. Secondary concrete walkways access the northern end of More Hall and the southern end of the Mechanical Engineering Building on the southern and northern sides of the site respectively. These walkways intersect a north/south concrete walkway linking More Hall and the Mechanical Engineering Building. At the intersection of this north/south walkway, the primary site access walkway descends to a lower plaza via an approximately 42-foot wide stairway of seven treads (eight risers). A secondary concrete stair also allows access to a lower plaza from near the northern entrance to More Hall. The plaza is adjacent to the western side of the subject building and extends both southward and northward from the southern and northern sides of the building, measuring approximately 160-foot wide in this north/south direction and approximately 60-foot deep in the east/west direction. The plaza has three different concrete surface finishes in an interlocking rhomboid-shaped slab design. A stairway located at the northeastern corner descends downward ten treads (ten risers) to a landing before continuing down an additional ten treads (eleven risers), to a concrete walkway accessing the northern end of the main floor of the building and also continuing onward to Jefferson Road.

The second floor of the building is a penthouse above the larger main floor, creating the appearance of a pavilion placed on a plinth. Access to the subject building's small lobby is on the eastern side of this penthouse and is reached by ascending a stairway of four risers extending the entire width of the building to perimeter paved roof walkways. These walkways have solid pre-cast concrete guardrails extending around the southern, eastern, and northern sides of the main floor roof. The site contains mature deciduous and coniferous plantings on the northern, southern, and western portions of the area.

3.4 Building Structure & Exterior Features

The More Hall Annex is a two-story building constructed of reinforced concrete. A larger partially earth-sheltered main floor supports a smaller second-floor penthouse, essentially the only portion of the building visible from Stevens Way.

The lower, main level is rectangular, measuring 69 feet 8 inches wide in the north/south direction by 76 feet in the east/west direction. The western portion of this floor is buried into the sloping site, with only the northern and southern façades exposed on their eastern ends. These walls are of conventional waterproofed reinforced concrete. Vertical board forming, spaced at a four-inch intervals, textures the exposed concrete walls on the building's lower northern and southern façades. The ceiling/roof of the lower portion is constructed of reinforced concrete with a floor to ceiling height of 11 feet. The roof slab cantilevers outward from exterior walls on the southern, eastern, and northern sides, creating a pedestrian roof deck or plinth for the penthouse. The north and south slab cantilevers extend progressively further outward reaching their greatest extent slightly to the east of the mid-section of the building, thus creating a trapezoidal plan of the roof plinth. The roof deck/plinth measures approximately 92 feet 2 inches at its widest point north/south, by 108 feet in the east/west direction. The roof deck is covered with a roofing membrane with exposed aggregate topping slabs sloped to drain to roof drains. The perimeter of the cantilevered roof slab supports solid pre-cast exposed aggregate guardrails spaced at four feet on center. Six equally spaced reinforced-concrete beams extend eastward from the eastern face of the lower/main floor supporting the longer cantilever of the eastern roof deck cantilever. These 3-foot deep beams span approximately 28 feet from the main north/south interior wall to rectangular columns set slightly inside of the building's eastern façade before cantilevering 12 feet outward. On the northern and southern façades the exterior wall areas inward from the exposed eastern concrete columns and lying beneath the outermost beams are filled with a mill-finish aluminum glazing system. The aluminum vertical mullions are spaced at 4 feet on center and intervening spaces are filled with glazing, opaque "panels," or louvered grills. The westernmost section on the northern wall contains a glazed door. The eastern façade also has the aluminum glazing system with vertical mullions spaced at 4 feet on center. The intervening spaces, with the exception of a glazed French door located south of the building's mid-point, are divided by horizontal mullions with lower opaque "panels," and a glazed transom running between the cantilevered concrete beams.

The building's penthouse is designed as a sculptural element mounted on the roof-deck/plinth. The penthouse allowed views down to the reactor room on its western side and featured a lobby and interior, viewing gallery on its eastern side. Two 10-inch thick reinforced concrete east/west girders are raised approximately 9 feet 6 inches above the plinth and define the northern and southern walls and support a reinforced concrete channel roof. Integral columns at the eastern penthouse wall and the ends of an interlocking transverse north/south haunch beam positioned east on the building's mid-point support these massive east/west girders. The eastern supports are 10-inch wide by 8-feet high, rhomboid-shaped columns that taper up from a base of 4 feet by 10 inches to a width of 8 feet at the top. The large girders cantilever 10 feet from the building's western face and 24 feet in the eastward direction from where they rest on the transverse haunch beam. The girders also increase in depth from 6 feet 7 inches on their western ends and 5 feet from their eastern ends to a maximum height of approximately 11 feet at the eastern edge of the haunch beam. The large northern and southern girders also support transverse spandrel beams defining the penthouse's western and eastern façades. The exposed concrete structural girders and beams are textured by vertical board forming, spaced at a 4-inch interval. The large haunch beam is 2 feet wide and protrudes outward approximately 6 feet from the penthouse's northern and southern walls. The 20-inch deep concrete roof channels are spaced at 4 feet on center and cantilever outward from the large east/west perimeter beams, extending outward approximately 5 feet from the eastern and western edges of the roof, and getting progressively larger until they reach approximately 9 feet 6 inches above the haunch beam. The exposed concrete haunch beam and the roof channels are painted white. The roof is covered with membrane roofing and the roof has a 1-in-12 slope that drains to the east and west to stainless steel downspouts running downward near the faces of the eastern and western exterior walls. The remaining wall areas of the penthouse are filled with a mill-finish aluminum glazing system sitting on top of a 1-foot high concrete perimeter curb.

From the west the building appears to be resting on a nearly rectangular, six-sided, exposed-aggregate concrete plinth, raising the building four steps above the western plaza. The western façade, beneath the transverse spandrel beam, consists of nine plate-glass panels framed by vertical aluminum mullions spaced approximately 4 feet on center. A single, 1.5-inch aluminum guardrail mounted 41 inches above the exterior deck is attached to each window mullion. A transverse concrete spandrel beam measuring 3 feet 6 inches high by 12 inches thick is mounted above the windows, spanning the distance between the external girders. Stainless steel downspouts are aligned with the window mullions 8 feet from each edge of the façade.

The northern façade of the penthouse features the large concrete east/west girder and its supports. The girder maintains a consistent bottom chord height of 9 feet, 6 inches. The remainder of the façade consists of ten 4-foot by 8-foot metal-framed windows on the western end of the façade. The westernmost window has an irregular shape, an approximately 6-foot wide base that tapers back on one side to a 4-foot wide top. The protruding haunch beam, measuring 2 feet wide by 6 feet 6 inches high, interrupts the eastern end of the window wall. On the eastern side of the protruding haunch beam, the eastern portion of the wall continues as a row of four, 5-foot by 6-inch plate glass windows below four, 2-foot by 6-inch glass transom panels. Poured-in-place concrete fills the intervening open ends of the roof channel sections at the perimeter wall.

The eastern penthouse façade contains nine four-foot wide aluminum framed panels similar to the western façade. At this location the panels have been divided into two sections, a two-foot high transom, and a six-foot panel below. The four southernmost lower panels are opaque. The lower middle panel and the three northernmost lower panels contain glazing and flank a glass French door with a lower kick plate at the same height as the other panel's sills. Two stainless steel downspouts are placed in a similar location as the west elevation.

The southern façade is nearly a mirror image of the northern façade, except that the eastern portion of the wall has a row of four 5-foot by 6-inch opaque panels below four 2-foot by 6-inch glass transom panels. ***See Figures 4–9.***

3.5 Plan & Interior Features

The building originally featured the research nuclear reactor on its western side with upper exterior gallery windows affording views down to the reactor floor. The eastern side of the building was devoted to service areas on the lower main floor and to administrative and interior public viewing on the penthouse level.

The lower level was designed around the location of the nuclear reactor. At the northwest corner of the building there is a 16-foot by 16-foot counting room that has a 2-foot wide interior wall. Moving east is a 20-foot by 16-foot area that was used as an experiment area. A 12-foot by 16-foot cluster of rooms is roughly centered along the north wall and contains a janitor closet, restrooms with gypsum board walls, and a large poured-in-place concrete column in the southwestern corner of this space. A corridor in a north-south direction approximately two-thirds the distance of the building from the western edge provides access to the exterior and circulation throughout the lower level. The corridor width varies from 5-feet 6 inches at the entry to 4 feet near the middle of the building; the eastern third of the building contains five spaces east of the corridor. From north to south there is a 16-foot by 28-foot graduate room, a 12-foot by 12-foot calculating room, a 12-foot by 12-foot office, a 24-foot by 12-foot dirty shop, and a 16-foot by 24-foot electronic shop. A transformer room is located within the electronic shop and is accessed from the north and east sides of the room. The western central portion of the building contains the nuclear reactor room, which is open to the roof structure of the penthouse and centered on a 21-foot concrete octagon that formerly housed the nuclear reactor. The concrete octagon has a rough cut through the middle where the reactor and any possibly contaminated concrete were removed. The remaining mass still rises approximately 12 feet high. The crystal spectrometry room in the southwestern corner of the building measures approximately 34 feet by 17 feet. Three flights of stairs wrap around a hollow concrete core and provide access to the upper floor off the compressed section of corridor, near the northeastern corner of the building.

The western two-thirds of the penthouse is open to the reactor floor below. A large traveling crane allowing rearrangement of reactor blocks was mounted to rails on the northern and southern concrete girders. The main public entry to the building is located near the midpoint of the eastern exterior wall, entering into a small 6-foot by 12-foot lobby. The lobby provides access to: an 11-foot by 19-foot control room overlooking the reactor floor; a southern lecture/briefing room also overlooking the reactor area and measuring approximately 17feet by 16 feet; a stairway located in the northeastern corner leading down to the lower floor; and an attic space via a fold-down stair.
See Figures 10–13.

3.6 Documented Building Alterations

The original building design was completed during 1959, and construction took place primarily in 1960. The building was dedicated in 1961.

A catwalk allowing access from the control room to the reactor was installed and removed at unknown dates.

In 1973, a decontamination corridor was added in the reactor room and a wall added to separate the experiment room. A wall was also added to the north side of the crystal spectrometry room and an emergency exit to the exterior. These features were removed, presumably during decommissioning. Architects Keith R. Kolb and Jack C. Stansfield, with Wood and Associates, Consulting Engineers, designed the alterations.

In 1978, the graduate room and calculating room had interior walls placed to create a more private office. University staff prepared the plans for the project.

In 1990, asbestos abatement was completed in the steam tunnel under the direction of Law Associates.

In 1993, minor interior remodeling included reconfiguration of interior partitions including accessibility improvements in restrooms, other minor alteration to partitions, and renewal of finishes.

University staff prepared the plans for the project.

In 1999, the fuel rods from the reactor were removed to Hanford, WA, effectively initiating the decommissioning of the building. Decommissioning involved stripping of porous interior finishes to remove possible radioactive substances, removal of wood-framed partitions near the reactor, and removal of the reactor itself. All mechanical systems including heating and ventilation equipment as well as electrical systems were also removed. The Nuclear Regulatory Commission issued a decommissioning certification on May 21, 2007.[1] *See Figures 14–19.*

4. SIGNIFICANCE

4.1 Context

National and Worldwide Nuclear Environment (1942-2008)

On December 2, 1942, In the midst of World War II, a team of scientists headed by Dr. Enrico Fermi achieved the first known controlled nuclear chain reaction at the University of Chicago. This new technology was further developed by the United States, allowing the United States to employ nuclear weapons in the Pacific Theater, specifically on the Japanese cities of Hiroshima and Nagasaki in 1945. After World War II, the Atomic Energy Commission was created to continue atomic energy research, and the development of practical applications. The first usable electricity from nuclear fission was produced in 1951, at what is now called the Idaho National Engineering Laboratory, and the nation's first nuclear-powered submarine using this technology, *Nautilus*, was under construction a year later. In 1954, the Atomic Energy Act was amended to allow private companies to utilize nuclear material and build power generation plants. Arco, Idaho, a small town of 1,000 people, was powered by a boiling water nuclear reactor in 1955. The Sodium Reactor Experiment at Santa Susana, California, produced the first electricity from a private nuclear reactor on July 12, 1957. On December 2, 1957, the first full-scale nuclear plant at Shippingport, Pennsylvania, went online, eventually providing 60 megawatts of electricity. The first nuclear-powered merchant vessel, the *Savannah*, was launched on July 21, 1959.[2]

During the 1960s and 1970s, the future of nuclear-powered electrical generation plants appeared unlimited.[3] By 1980, the number of nuclear power plants had increased to a point that, when combined, generated more electricity than oil-fired generation plants.[4]

After a partial core meltdown on March 28, 1979, at the Three Mile Island Unit 2, the safety of nuclear plants was questioned and the construction of additional plants became controversial with a subsequent slowdown of new plant construction. Another setback to the growth of nuclear power occurred in 1986, when a major deadly accident occurred in the Soviet Union at Chernobyl, Ukraine. By 1989, however, national electrical demand was more than 50 percent higher than in 1973, with nuclear plants providing approximately nineteen percent of this power demand. In 1989, the Perry Power Plant in Ohio became the 100th operational nuclear power plant in the United States. The number of operating nuclear power plants in the nation increased to 112 in 1990. In 2000, a world record reliability benchmark was reached for the nation's nuclear power plants operating safely at more than 90 percent capacity beginning in 1990. There are currently 104 operational nuclear power plants operating in the United States and there are 30 plants currently in

---

[1] Capital Projects Office (CPO) record drawings for Nuclear Reactor Building, University of Washington, TAAG and CPO, various dates.

[2] Commission on Engineering and Technical Systems, US Nuclear Engineering Education: Status and Prospects, The National Academy of Sciences, 1990.

[3] http://www.nei.org/, accessed June 26, 2008. The Idaho National Engineering Laboratory is now a National Historic Landmark, and open to the public for touring.

[4] http://www.nei.org/, accessed June 26, 2008

the planning stages in the US, however only one is under construction.[5,6]

Nuclear power production is growing throughout the world with 439 plants presently operational, with many located in China, Korea, Japan, and Taiwan.[7] [8] The United States has the greatest number of nuclear plants in the world, but ranks 17th in the percentage of total electricity used from nuclear power. France leads with nearly 77 percent of its energy derived from nuclear sources, and is second in the world with 59 operational nuclear power plants.[9] Nuclear waste and cleanup are ongoing issues at numerous sites around the world.[10]

State of Washington Nuclear Environment

The Hanford Reservation in southeastern Washington was part of the World War II Manhattan Project that developed the first nuclear explosive device, and the site of the world's first full-scale plutonium production reactor. During the Cold War, the plant produced plutonium for most of the nuclear weapons in the nation's arsenal. Hanford's reactors for weapons production were decommissioned after the conclusion of the Cold War, leaving behind 53 million gallons of radioactive waste contained at the site. The location is still considered to be the most contaminated site in the United States.[11] ***See Figure 20.***

The popularity of nuclear energy in the Northwest has been harmed more by bad financial decisions than by technological problems or concerns over safety. The Washington Public Power Supply System (WPPSS) borrowed $8.3 billion by May 1974, and committed to construct five nuclear plants.[12] The decision to build the plants was based on an escalating need for power as forecasted by the Federal Bonneville Power Administration. In 1982, the costs had ballooned from the $4.1 billion expected to $23.2 billion. Problems with the forecast came from energy conservation as a result of the 1973 and 1979 surges in oil prices. As a result the WPPSS defaulted on $2.25 billion in bonds used for financing two nuclear power plants that never became operational. The Bonneville Power Administration honored the bonds because of the financial structure for the first three plants. Financing costs were passed on to users in rate increases.[13]

The Trojan Nuclear Plant on the Oregon side of the Columbia River cost $450 million to build when construction began in 1970, ran for seventeen years, and will cost $409 million to decommission (the plant developed a cracked steam tube which released radioactive gas into the plant in 1992).[14] This and the WPPSS debacle caused both Washington and Oregon to pass laws restricting the construction of future nuclear power plants.[15]

National Academic Nuclear Engineering Environment

Nuclear engineering and radiological sciences are one of the younger engineering professions. The field involves the extraction of useful energy from the nucleus of the atom, the manufacture and handling of isotopes used in hospitals and industry, modification of materials, and development of

---

[5] http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactsum.html, accessed June 26, 2008. Some older plants have been decommissioned.

[6] http://www.nei.org/careersandeducation/careersinthenuclearindustry/bepartofagrowingworkforce/, accessed June 26, 2008.

[7] http://www.greatachievements.org/?id=3691, accessed June 26, 2008.

[8] Peter Lyon, NRC Commissioner Speech, March 22, 2008.

[9] http://www.nei.org/resourcesandstats/, accessed June 26, 2008.

[10] http://www.em.doe.gov/pages/emhome.aspx, accessed June 30, 2008

[11] http://www.hanford.gov/doe/history/, accessed June 26, 2008

[12] Daniel Pope, "Antinuclear Activism in the Pacific Northwest—WPPSS and Its Enemies," 1998, pg. 236.

[13] Charles P. Alexander, "Whoops! A $2 Billion Blunder," *Time*, August 8, 1983, via http://www.time.com/time/magazine/article/0,9171,955183,00.html, accessed June 26, 2008.

[14] http://ludb.clui.org/ex/i/OR3142/, accessed June 30, 2008.

[15] Harden, Blaine, "In the Northwest, Nuclear Power Takes a Hit," *Washington Post*, May 22, 2006, p. A02.

instruments and scanners to detect radiation. Nuclear engineering contributes approximately 4.1 million jobs and $300 billion to the nation's economy annually. Research in nuclear fusion today focuses on a limitless supply of energy through the use of seawater, magnetic bottles, high-powered lasers, and charged particle beams.[16]

In 1968, approximately 76 nuclear reactors were in operation at universities in the United States. Today there are approximately 27 nuclear reactors in academic settings, down from 40 in 1987, and 28 in 1990. Undergraduate senior student enrollment decreased from 1,150 in 1978 (before Three Mile Island), to about 650 in 1988. The Northwest currently has four research reactors associated with universities: one at Washington State University, Pullman, Washington; one at Oregon State University in Eugene, Oregon; one at Reed College, in Portland, Oregon; and one at Idaho State University in Pocatello, Idaho.[17][18]*See Figures 21–23.*

As nuclear departments' faculty has aged, and departments shrink because of declining enrollment, there has been little room for younger academics to gain teaching experience in the field. The rising costs of aging faculty and a lack of revenue from both tuition and research income has caused universities nationwide to cut nuclear programs and operational costs. Additionally, younger scientists who are entering the teaching ranks have a lower interest in reactor-based research than older faculty members. This may be due to the decline in research related to reactors since 1973, and redirection of research toward fusion, medical applications, space power, and waste management. However, the demand for graduates is expected to be stable or slightly increase over the next 20 years.[19]

Nuclear Engineering at the University of Washington

The University of Washington College of Engineering began offering nuclear engineering classes in 1953, and in 1958, granted its first Master of Science in Engineering focusing on nuclear engineering. This program was run through the Graduate School or College of Engineering until 1965.[20] The Dean of the Engineering College at the time was Dr. Harold Wessman, an advocate for the formation of the Nuclear Engineering program with a research nuclear reactor building on the campus.[21]

In April 1961, (the centennial of the University of Washington), the nuclear reactor in the current More Hall Annex reached criticality (the point in an intensifying nuclear reaction at which it becomes self-sustaining). Nuclear Engineering was upgraded as a discrete department in 1965, having at that time 65 students. Albert L. Babb was the first chair of the eight-faculty department made up of engineering professors of different departments. During the 1960s, there was a joint research project with the Critical Mass Laboratory in Hanford, WA, supervised by Bob Albrecht.[22] Declining interest in nuclear power research led to a decline in enrollment, and by 1989, the department had only 18 students. The department was dissolved in 1992, and the eight faculty members went back to their home departments of electrical, chemical, mechanical, and aeronautical engineering. Between its inception in 1965 and 1992, the department granted approximately 300 graduate nuclear

---

[16] http://www-ners.engin.umich.edu/about/undergrad.html, accessed June 26, 2008

[17] *USGAO Nuclear Security Report to the Ranking Member, Subcommittee on National Security and Foreign Affairs, Committee on Oversight and Government Reform, House of Representatives*, January 2008.

[18] *U.S. Nuclear Engineering Education: Status and Prospects, Committee on Nuclear Engineering Education*, National Research Council, 1990, p. 56. The current climate of security concerns has led to a re-examination of the fuels used in research facilities. Completion of this conversion is anticipated by 2011. Oregon State University and Washington State University presently use highly enriched uranium (HEU, weapons grade fuel), but are scheduled to convert to low enriched uranium (LEU) by 2008.

[19] U.S. Nuclear Engineering Education: Status and Prospects, Committee on Nuclear Engineering Education, National Research Council, 1990, p. 56.

[20] Norman McCormick, email correspondence, June 26, 2008.

[21] Dean McFeron, interviewed by Abby Martin, January 21, 2008.

[22] McCormick email, June 26, 2008.

engineering degrees.[23]

4.2 More Hall Annex

In the late 1950s, the research reactor in the More Hall Annex was created to supplement the nuclear engineering program at the University of Washington. The University commissioned a team of architects, an engineer, and an artist, most of which were University of Washington faculty, to design the new facility. Collectively known as The Architect Artist Group (TAAG), the group was composed of architects Wendell Lovett and Daniel Streissguth, both on the faculty of the College of Architecture, practicing architect and University graduate Gene Zema; Spencer Mosely, an art professor, Robert Chittock, a landscape architecture instructor at the university, and Gerard Torrence, a structural engineering professor with the College of Architecture.[24]

The site for the proposed research nuclear reactor building on the campus, between More Hall and the Mechanical Engineering Building and Engineering Annex and adjacent to a pedestrian pathway, was chosen both for its close proximity to this cluster of academic engineering buildings, as well as to promote the apparent safety of nuclear energy by being located directly on campus rather than at a remote facility.[25]

Of the design team for the project, Wendell Lovett is generally considered the building's major designer.[26] Streissguth and Zema, however, participated with Lovett in the site design and the terrace plinth. Lovett, an advocate of prefabrication, also designed the pre-cast guardrails lining the terrace plinth.[27] Gerard Torrence, the project engineer, was instrumental in the sizing and shape of the structural members. Torrence also designed the reinforced concrete channel roof.[28]

Spencer Moseley, an artist, worked with Babb and Lovett, on the design of the reactor, which had large moveable blocks, painted in the primary colors, and used as shields. Lovett and Babb conceived of the idea of the building's materials and arranging the spaces so that the interior was highly visible. Moseley, a modernist, non-objective painter, wanted the reactor blocks to be painted various bright colors (blue, yellow, and red) which would be indicative of different radioactive qualities—thus creating a constantly changing pattern while the blocks were positioned for different experiments.[29]

After completion of schematic design, Lovett traveled to Stuttgart, Germany, on a Fulbright grant, spending the academic year as a visiting critic. Zema, Streissguth, Torence, and Chittock completed the construction documentation over the next few months, with Zema signing the architectural drawing set on November 9, 1959.[30] Streissguth recently credited Zema as a craftsman with great attention to detail and "the most hard-headed and most organized of us architects."[31] Torrence also credits the project architects with demanding and receiving a high level of workmanship in the

---

[23] *A Century of Educating Engineers, University of Washington College of Engineering,* Seattle, WA: University of Washington Press 1998.

[24] Streissguth interview, January 12, 2008. Frederick Mann, then University of Washington Architect, approached Arthur Herman, then Dean of the College of Architecture, with a proposal to modify an existing capital improvement policy that prevented University of Washington staff or employees from receiving design commissions from the University, and to allow the selection of TAAG as architect for the proposed new University facility.

[25] McFeron interview, January 31, 2008. As part of the agreement, all faculty members were required to reduce their positions to part time. As a precedent, Carl Gould, the founder of the Department of Architecture and creator of the 1915 General Plan of the University Campus, designed Raitt Hall (1917, 1922), Savery Hall (1917, 1920), and Miller Hall (1922), within the architectural partnership of Bebb & Gould, while employed as head of the Department of Architecture between 1915 and 1926.

[26] Streissguth interview, January 12, 2008. The shape of the large cantilevered girders on the northern and southern sites of the penthouse section recall the shape of the exterior walls on Lovett's Wallace Lovett House II, also designed in 1959.

[27] Streissguth interview, January 12, 2008. It is assumed that Robert Chittock was also involved in siting discussions.

[28] Streissguth interview, January 12, 2008. The original concept was to use pre-cast pre-stressed or post-tensioned concrete sections for the roof. Due to the logistics of site delivery, as well as the uniqueness of every member, Torrence offered the contractor the alternative of poured-in-place construction, which the contractor chose.

[29] Streissguth interview, January 12, 2008.

[30] "Nuclear Reactor Wing, Mechanical Engineering Building," pp. A1-A12. November 9, 1959.

[31] Streissguth interview, January 12, 2008.

concrete construction, noting that the architects surfaced the forms with a textural pattern and form-tie pattern that he felt enhanced the finished product.[32] The design intent of the building was for all concrete to remain unfinished; after the building's completion in 1961, however, the large transverse haunch beam and the roof channel sections were painted white at the request of the University president, Charles Odegaard.[33]

It should be noted that More Hall Annex was one of approximately 76 educational nuclear reactors constructed in the United States, and although contributing to our understanding of the development of nuclear energy for peaceful purposes, the building does not possess a unique association with this aspect of our historic heritage. As far as can be determined, the building also is not known to be associated with an experiment or process that has contributed to the greater body of knowledge of nuclear research or engineering.

4.3 Historic Architectural Context

The More Hall Annex can be considered a Brutalist design, an architectural statement of the possibilities inherent with concrete construction.

Brutalism

Brutalism is taken from the French "breton brut" or rough concrete. This style developed in the early 1950s, with the philosophic intent to show how buildings worked. The structure, shell, and heating and ventilation systems were to be visible. This design philosophy was later broadened to include any massive building built of concrete, a construction practice opposite of the glass curtain wall promoted by some European architects including Mies van der Rohe and Walter Gropius. The French architect Le Corbusier was considered the champion of this style, and in his Unité d'Habitation (1952) in Marseille, France; and the Secretariat Building (1953) in Chandigarh, India, were early archetypes in this style.[34]

The exterior of these buildings was often of rough finished concrete that left the texture of board forms. Other characteristics of the style include: a heavy mass and large scale, ridges or elements that create sharp shadows, inoperable windows set deeply into the building envelope, and floors and roofs constructed of waffle slabs or other expressive structural systems. In addition to concrete, Brutalist buildings may include brick, rough-hewn stone, steel surfaces. All buildings exhibiting an exposed concrete exterior, however, cannot be cataloged as Brutalist, and may be sub-classified as Constructivist, Deconstructivist, Expressionist, International, or Postmodern.[35]

In the United States, one of the best examples of brutalism is the University of California, San Diego's Geisel Library (1971, William L. Pereira). Other significant works include the Boston City Hall (1963-68, Kallman, McKinnell and Knowles), Paul Rudolph's realization of the University of Massachusetts, Dartmouth campus, and the 1958 Yale Art and Architecture Building (Rudolph). ***See Figures 24–25.***

Other Brutalist buildings on the University of Washington campus include McMahon Hall (1965, Kirk, Wallace, McKinley & Associates), the Marine Sciences Building and Oceanography Teaching Buildings (1967-69, Little & Jones), Schmitz Hall (1970, Waldron & Pomeroy), Kane Hall (1971, Walker, McGough, Foltz, Lyerla), Gould Hall (1972, Streissguth & Zema), and Condon Hall (1973, Mitchell/Giurguola Associates; Joyce, Copeland, Vaughan & Nordfors). ***See Figures 26–28.***

Modern Buildings Exhibiting Plinth Bases

The concept of using a low horizontal mass or plane as a foil to an upper distinctive architectural form can be traced back to the Parthenon in Athens (447 B.C.). If the development of the modern

[32] Gerard Torrence, interviewed by Larry Johnson, June 10, 2008.

[33] Wendell Lovett, interviewed by Abby Martin, January 17, 2008.

[34] Nikolaus Pevsner, *An Outline of European Architecture*, pp. 413-415.

[35] http://www.ontarioarchitecture.com/Brutalist.htm, accessed June 26, 2008.

movement freed architects to explore forms created from the combination of free form and geometric volumes, it did not discourage inspiration drawn from classical compositions. The building now known as the More Hall Annex, with its upper sculptural form and lower floor base is compositionally derived from this architectural tradition.

Significant architectural projects using a horizontal plinth to support an architectonic form or forms that were designed in the early to mid-1950s include: Ero Saarinen's Kresge Auditorium (1954-55), Ludwig Mies van der Rohe's Chicago Institute of Technology (1955), Skidmore, Owings and Merrill's U.S. Air Force Academy (1957-60), and Minouru Yamasakis's McGregor Memorial Conference Center (1959). Contemporaneous with the More Annex is the faceted structure of hyperbolic paraboloids of Phillip Johnson's Nuclear Reactor in Rehovot, Israel (1961), and Skidmore, Owings and Merrill's Beinecke Rare Book and Manuscript Library on the Yale Campus completed in 1964.

Locally, Paul Thiry, one of Seattle's most esteemed architects of the period, produced some of the finest regional modernist buildings of the period that incorporated a raised plinth, including Washington State Library (1954-59) in Olympia, and his breathtaking Mercer Island Presbyterian Church, designed in 1960, where the white concrete folded plate roof almost magically hovers above the horizontal plane of its sanctuary. NBBJ also used this concept in the Seattle Scottish Rite Temple in 1961, and later when collaborating with Minoru Yamasaki in the IBM Building in downtown Seattle in 1964. ***See Figures 29–34.***

4.4 Building Architect

The Architect Artist Group (TAAG)

The architect of More Hall Annex was The Architect Artist Group (TAAG), a collaboration of Architect of Record Gene Zema, Wendell Lovett, and Daniel Streissguth. Wendell Lovett initially organized the group, recruiting fellow University of Washington architectural professor, Daniel Streissguth, and former student, Gene Zema, in order to obtain larger, non-residential projects. The collaborative was formed in 1959, to design the Nuclear Reactor Wing, Mechanical Engineering Building on the University of Washington Campus. Spencer Moseley was the collaborating artist in the design, Robert Chittock provided Landscape design, and Gerard Torrence was the structural engineer for the project. Although TAAG submitted a competition design for the proposed Toronto City Hall in 1961, failing to win the commission, the group ceased to exist that year. Streissguth and Zema collaborated once again on the design of the Wells Medina Nursery in 1968, and Gould Hall on the University of Washington Campus in 1972.

Wendell Lovett

Wendell Harper Lovett was born on April 2, 1922, in Seattle, Washington. He attended the University of Washington School of Architecture from 1940 through 1943, when he was drafted into the United States Army during the Second World War. Lovett served in Normandy with the 13th Armored Division and was discharged in 1946, after the war in Europe ended. He reentered the University of Washington later that year, continuing his architectural studies within an academic program that was slowly shifting toward modernism. Lovett graduated in June 1947, receiving the AIA Silver Medal.[36]

While pursuing graduate studies at the Massachusetts Institute of Technology between 1947 and 1948, Lovett studied under Alvo Alto, who was at the time working on the Baker House Residence Hall.[37] Lovett received his State of Washington architectural license (#475) on July 23, 1948.

---

[36] Grant Hildebrand and T. William Booth, *A Thriving Modernism, The Houses of Wendell Lovett and Arne Bystrom* (Seattle, WA: University of Washington Press, 2004), pp. 9-12.

[37] Hildebrand and Booth, *A Thriving Modernism*, pp. 12-14. Lovett was licensed to practice architecture in Washington State in July of 1948.

Returning to Seattle, Lovett worked briefly for Naramore, Bain, Brady, and Johanson (NBBJ), before accepting a position with architects Bassetti and Morse, where he was employed until 1951. He also accepted a half-time position as instructor at the University of Washington School of Architecture, teaching not only alongside his old professor Lionel Pries, but also along with other recent University of Washington architecture graduates such as Victor Steinbrueck and Omer Mithun.[38]

Between 1950 and 1951, Lovett designed and built his own house in the Hilltop Community, a planned development where both Bassetti and Morse also built personal residences. In this house Lovett experimented with design concepts and means of prefabricated construction to the extent that the house could be seen as a prototype for minimalist housing. The project received a Washington State American Institute of Architects (AIA) Honor Award and was widely published in architectural publications both nationally and internationally. During 1951, Lovett began an independent architectural practice.[39] ***See Figure 35.***

Lovett was appointed Associate Professor with tenure at the University of Washington in 1954.[40] The same year he completed a design for a house for his parents, which also won a Washington State AIA Honor Award, and was widely published for the design of a patented "firehood" and a wire frame lounge chair known as the "Flexifibre" and later the "Bikini" chair.[41]

In 1957, Lovett designed a second house for his parents, known as the Wallace Lovett house II, which departed radically from earlier attempts to translate Miesian ideals into wood-framed construction and, while retaining some rectangularity, used cantilevered solid sidewalls to create more of a sense of organic enclosure.[42] He also designed the Mary Jane Worth house in Seattle. Both the Wallace Lovett House II and the Worth House were published internationally that year.[43] ***See Figure 36.***

In 1958, Lovett collaborated with his former student Gene Zema on alterations to the Alpha Tau Omega fraternity house near the University of Washington campus.[44] In 1959, Lovett designed the Gordon Giovanelli house in Mercer Island.[45] The house received the *Seattle Times*/AIA Seattle "Home of the Year" award. ***See Figure 37.***

That same year, Lovett, with fellow University of Washington School of Architecture professor Daniel Streissguth and former student Gene Zema, under the name The Architect Artist Group (TAAG), received the commission to design the Nuclear Reactor Building on the University campus.[46] The design of the building was completed during 1959, and the building was published in national and international architectural journals in 1959, 1962, 1963, 1964, and 1965. In the later part of 1959, Lovett traveled to Germany on a Fulbright grant as part of a faculty exchange program with the Technical Institute of Stuttgart, spending the academic year as a guest critic.[47] ***See Figures 14 and 15.***

In 1961, TAAG submitted a competition design for the proposed Toronto City Hall, failing to win the competition. Lovett also collaborated with architect Ted Bower on tensile/fabric pedestrian walkway shelters for the Century 21 Exposition in Seattle. That year Lovett initiated extensive alterations to his Hilltop house; it was published nationally and internationally, and won an AIA Seattle Honor Ward in 1965. ***See Figure 38.***

---

[38] Hildebrand and Booth, *A Thriving Modernism*, p. 15.

[39] Hildebrand and Booth, *A Thriving Modernism*, pp. 15-16, 134. Lovett would continue to receive international publication in France, Italy, Germany, Japan, and other countries.

[40] Hildebrand and Booth, *A Thriving Modernism*, pp. 16-17, 134-135.

[41] Hildebrand and Booth, *A Thriving Modernism*, pp. 16-17 and 134-135.

[42] Hildebrand and Booth, *A Thriving Modernism*, p. 17. The side cantilevers of this house resemble the sides of the Nuclear Reactor Building on the University of Washington Campus designed in 1959.

[43] Hildebrand and Booth, *A Thriving Modernism*, pp. 135-136.

[44] Hildebrand and Booth, *A Thriving Modernism*, p. 136.

[45] Hildebrand and Booth, *A Thriving Modernism*, p. 136.

[46] Nuclear Reactor Wing, "Mechanical Engineering Building," pp. A1-A12. November 9, 1959.

[47] Hildebrand and Booth, *A Thriving Modernism*, p. 136.

Between 1961 and 1970, many of Lovett's architectural commissions included interior design of office space, including renovations to the offices of the Seattle AIA in 1968. Major residential commissions during this period, many published nationally and internationally, include Sidney Gerber house (1962, Seattle), the Peter Meilleur house (1966, Bellevue), the Nicolas Podvorac house (1967, Seattle), the Jack Melill house (1968, Mercer Island), the Dr. Cecil K. Stedman house (1969, New Denver, British Columbia), and the Lauren Studebaker house (1969, Mercer Island). All of these residential design commissions are more organic forms, originally found in the seminal Wallace Lovett II house. Lovett was appointed Full Professor at the University of Washington in 1965.[48]

In 1970, Lovett designed a vacation retreat on Crane Island in Washington State's San Juan Islands. This house, framed from a pair of inverted king-post trusses, received extensive national and international attention in architectural journals and was published as late as 1997. The retreat also received a *Sunset*/AIA Western Home Competition Merit Award in 1971, an American Plywood Association National Citation in Architecture in 1972, and an *Architectural Record* National Award of Excellence for House Design in 1974.[49] ***See Figure 39.***

Between 1970 and 1987, Lovett completed approximately 34 residential commissions besides the Crane Island Retreat, many which received local, national or international attention. The W. Prescott Miller house (1970, Whidbey Island); the David Munday vacation house (1970, Crystal Mountain); the Gerald Frey house (1972, Bellevue); the William Wallace house (1973, Mercer island); the Melvin Fujita house (1975, Seattle); the Max Scofield house (1976, Mercer Island; the William Wahl house (1979, Bellevue); the Larry Monson house (1979, Mercer Island); and the Dick Peterson house (1980, Seattle). Lovett was elected to the College of Fellows of the AIA in 1978.[50]

In 1987, Lovett retired from full-time teaching and was elected Professor Emeritus. The same year, Lovett finished designing what would become a grand lakefront mansion for Microsoft multi-millionaire, Charles Simonyi. Villa Simonyi would be completed over the next 12 years in four phases, receiving national and international recognition.[51] ***See Figure 40.***

Subsequent to his retirement Lovett completed approximately 13 more residential commissions between 1987 and 2002, besides Villa Simonyi, including a large lakeside home designed for David Cutler and Debrah Girdler (1997, Issaquah).[52]

Over a career spanning over 50 years, Lovett's has built a national and international recognition based upon his for excellence in residential design. In 1993, Lovett received the AIA Seattle Medal for distinguished lifetime achievement in architecture, in design and design education. *Arcade, the Northwest Journal for Architecture and Design*, published a feature article on Lovett in 1998, and a book featuring both his residential work, and that of contemporary northwest residential architect, Arne Bystrom, was published in 2004.[53]

Daniel Streissguth

Daniel Streissguth is a 1947 graduate of the University of Washington College of Architecture and Planning, and a 1949 graduate of the Massachusetts Institute of Technology, where he completed a Master of Architecture degree. Streissguth was initially licensed (#648) on July 10, 1951. He taught architecture at Washington University in St. Louis, Missouri, from 1953 to 1955. In 1955, he began teaching at the University of Washington, and continued teaching 300-level design (beginning design) to undergraduate and graduate students there until his retirement in 1993. During his tenure he served two four-year terms as chair of the Architecture department, and is primarily known for his excellence in teaching design.

---

48 Hildebrand and Booth, *A Thriving Modernism*, pp. 137-138.
49 Hildebrand and Booth, *A Thriving Modernism*, pp. 26-31, 138-139.
50 Hildebrand and Booth, *A Thriving Modernism*, pp. 138-142.
51 Hildebrand and Booth, *A Thriving Modernism*, pp. 138-142.
52 Hildebrand and Booth, *A Thriving Modernism*, pp. 42-48, 142-143.
53 Hildebrand and Booth, *A Thriving Modernism*, p. 143.

Streissguth maintained a small private practice over his career where he worked on residential projects in addition to his teaching duties. He designed the Cotton House Remodel in Port Townsend (1956), the Helander House, Port Townsend (1956), and designed his own home in Seattle in 1958. He and Gene Zema worked together to design the current home of the University of Washington College of Architecture and Planning, Gould Hall, in 1972. Streissguth and Zema also worked on the Wells Medina Nursery buildings and grounds (1968). ***See Figure 28 and 41.***

Gene Zema

Gene Zema was born and raised in Sacramento Valley, CA. He holds a Bachelor of Architecture degree from the University of Washington, granted in 1950. He received his architecture license (#653) on July 10, 1951, and joined the AIA in 1951, working for a few other firms until beginning his own firm in 1953. His office was located at 200 East Boston, Seattle, where he worked until his retirement in 1976. He originally shared space in this office with A. O. Bumgardner and collaborated on larger projects with his firm. ***See Figure 42.***

In 1955, Zema and Bumgardner designed one of many prototypes for residential products for the Grand Rapid Homestyle Center in Michigan, and competed with other nationally known architects. This design was similar to the several builders' concepts he worked on for the Bridle Trails Park of Bellevue.

Zema received a Seattle AIA Home of the Year award in 1955, for a house he designed for himself in Seattle. He also received awards for the Holm Residence (1956, Seattle) in 1962, and the Lupton Residence (Mercer Island) won a *Sunset*/AIA Western Home Competition Honor Award in 1961, and a Seattle AIA Honor Award the following year. ***See Figures 43.***

Zema designed a dwelling for himself on Whidbey Island in 1961. In 1962 he completed work on 2401 Killarney Way SE, Bellevue and 4234 51st Avenue NE, Seattle. Zema completed another house for himself in Laurelhurst (1965), followed by 9520 SE 15th Street, Bellevue (1966), and 2222 16th Avenue E, Seattle in 1969. ***See Figures 44-50.***

Zema credits design influences of Paul Hayden Kirk's work, particularly his many doctors' offices, clinics, and other medical and dental buildings.[54] The similarities are reflected in eight medical/dental clinics he designed and his residential work as well. Zema designed the Rice Dental Clinic (1961), the Jefferson Park Medical Clinic (1957), and the Overlake Park Clinic (1963-65).

Commercial projects included the Wells-Medina Nursery (1968, Medina, with Streissguth), and his Japanese Antique Gallery on Eastlake Avenue (1968), built to the rear of his original office in the Eastlake Neighborhood. ***See Figure 51***

Zema also collaborated with Wendell Lovett and Daniel Streissguth on what is now know as More Hall Annex (1961), and with Streissguth on Gould Hall (1972), both on the University of Washington campus. ***See Figures 14, 15, and 28.***

4.5 Other Associated Individuals

Robert Chittock

Robert Chittock was the landscape architect for the building now known as More Hall Annex.

Chittock attended the University of Oregon, and received his Landscape architecture license (#86) on June 9, 1971. He was the landscape architect for what is now known as the More Hall Annex. He also designed the landscape for the Japanese Branch of the First Presbyterian Church of Seattle (1963), the rooftop deck for the Bay Vista Towers, Belltown (1982), the Seattle Garden Club Fragrance Garden (2007), the landscape for the Grace Boyd Residence, West Seattle (2008), and the Bowman Garden, Bellevue, WA (1982). ***See Figure 52.***

---

[54] Streissguth and Zema interview, January 15, 2008.

Gerard Torrence

Gerard Torrence was the structural engineer for the building now known as More Hall Annex.

Gerard Torrence was born in December 1925, in Bellingham, Washington, and lived with his family in Alberta, Canada, where he spent the next eleven years. Torrence enlisted in the United States Marine Corps during World War II. After discharge from the military, he attended and graduated from the University of Washington. Upon graduation, he received a scholarship at the Massachusetts Institute of Technology, where he received a Masters degree majoring in structural engineering in 1950.[55]

He returned to Seattle and worked for the firm of Marshall and Barr, working primarily on reinforced concrete buildings, including grain elevators in Longview and Portland, and steel structures, including a bridge for a logging company, and other bridge-like structures. He also worked briefly for Donald Radcliffe (a structural engineer and professor at the University of Washington, retired emeritus in 1980), before beginning a teaching career at the University of Washington in 1955.[56]

Torrence taught structural engineering at the University from 1955 to 1988, first within the Department of Architecture, and then in the Department of Building Construction (now Building Construction Management), while continuing to practice structural engineering within the confines of a one-person firm. During his career Torrence was the structural engineer on over 120 projects, working in collaboration with many notable northwest architects, often with fellow professors at the University of Washington, including Omar Mithun, Wendell Lovett, and Daniel Streissguth. He is remembered by students as a hard task maker, but most valued his down-to-earth practicality in design solutions. Torrence considers the Nuclear Reactor Building "one of my better accomplishments." Other significant buildings he worked on include the Music Building at Shoreline Community College, Bellevue City Hall (demolished), Bellevue Library (demolished), Tukwila City Hall, and the Renton Senior Center.[57]

Spencer Moseley

Spencer Moseley was the collaborating artist for the building now known as More Hall Annex.

He was born in Bellingham, WA, and attended the University of Washington. Moseley taught at the university from 1951 to 1977, and was the director of the School of Art from 1967 to 1977. He was a Cubist who worked primarily in acrylics. Moseley worked on the More Hall Annex design as an artistic consultant. His historical influence was Ferdinand Leger, a French painter who interacted with Le Corbusier, the famous Swiss Modernist architect.

Moseley was also a musician, composer, and writer. In 1962, along with Hazel Koenig, and Pauline Johnson, he wrote "Crafts Design," in 1977, he wrote "Wendell Brazeau: A Search for Form" with Millard Rogers, and in 1982, "Walter F. Isaacs: An Artist in America" with Garvais Reed.

Moseley was known as "a modern painter of superb talent, intelligence and wit, and an effective and urbane promoter of all the arts," said fellow painter Michael Spafford. "As a student, teacher and finally director of the University of Washington's School of Art, he had a major role in creating an era of great artistic energy in Seattle. He made an effort and a difference and I will remember him with fondness and respect." Moseley passed away on January 28, 1998. ***See Figure 53.***

Richard Stern and Robin Towne

Richard Stern and Robin Towne were the mechanical engineers for the building now known as the More Hall Annex.

---

55 Torrence interview, June 10, 2008.

56 Torrence interview, June 10, 2008.

57 Torrence, interview, June 10, 2008.

Both Stern and Towne were fifty-year members of American Society of Heating, Refrigerating & Air Conditioning Engineers (ASHRAE). Stern served as president of the Puget Sound Chapter of American Society of Refrigerating Engineers (ASRE) in 1947, and president of the Puget Sound Chapter of American Society of Heating and Ventilating Engineers (ASHVE) in 1951.[58] Significant structures they worked on include the United Control Corporation Factory, ca. 1960, and the University Unitarian Church #2, Seattle, WA, 1958.

Thomas Sparling

The electrical engineer for the building now known as the More Hall Annex was Thomas E. Sparling.

Sparling was an award winning engineer and the founding partner of Thomas E. Sparling and Associates, Electrical Engineers, predecessor firm to Sparling Electrical Engineering, Seattle, Washington. Sparling received the B.S. in Electrical Engineering from Montana State University in 1939, and worked as an electrical engineer for the Puget Sound Naval Shipyard in Seattle, Washington, during WWII.

He founded Sparling Engineering in 1947, practicing industrial and commercial power, industrial automation and control, and communications before he retired in 1984. Sparling was a registered professional engineer in five states and active in the Institute of Electrical & Electronics Engineers (IEEE) and Industry Applications Society (IAS), holding many offices including chairman of the Codes & Standards Committee (IAS). He worked on the first Hood Canal floating bridge, military facilities and the express lane gates for Interstate 5. He was involved in the National Electric Code and served as chair of the Pacific Northwest Electrical Exposition in 1976 and 1980, as well as President of the Consulting Engineers Council of Washington. Sparling was the recipient of the IEEE Achievement Award for Industrial Power Systems in 1979 and the IAS Outstanding Achievement Award in 1991, and the IEEE Richard Harold Kaufmann Award in 1997. He passed away on December 5, 2004, at the age of 87.[59]

Jentoft & Forbew

The contractor for the building now known as the More Hall Annex was Jentoft & Forbew.

Prepared by:
Larry E. Johnson, AIA
The Johnson Partnership
1212 NE 65th Street
Seattle, WA 98115
www.tjp.us

---

58 http://www.pugetsoundashrae.org/history.htm, ASRE and ASHVE merged in 1959 to form ASHRAE, accessed June 10, 2008.

59 ACEC Washington Newsletter via Jim Duncan, Chairman and Chief Engineer, Sparling Inc. email correspondence, July 14, 2007.

5. Bibliography

ACEC Washington Newsletter via Jim Duncan, Chairman and Chief Engineer, Sparling Inc. email correspondence, July 14, 2007.

A Century of Educating Engineers. University of Washington College of Engineering, Seattle, WA: University of Washington Press, 1998.

Alexander, Charles P. "Whoops! A $2 Billion Blunder." *Time*, August 8, 1983, via http://www.time.com/time/magazine/article/0,9171,955183,00.html (accessed June 26, 2008).

Architecture West. "Strong Lines Lead Students to Nuclear Learning." 68: 18-19, December 1962.

Arts and Architecture. "Nuclear Reactor Building" 80: 22-23, January 1963.

Arts and Architecture. "Technical Building by The Architect Artist Group", 25, September 1959.

Architectural Record. "A Teaching Reactor in a Glass Pavilion." 134: 182-183, September 1963.

Capital Projects Office, University of Washington. "Record drawings for Nuclear Reactor Building, University of Washington," The Architect Artist Group, and CPO, November 11, 1959

Chittock, Robert, Wendell Lovett, Dan Streissguth, Gerard Torrence, and Gene Zema. "Nuclear Reactor Wing, Mechanical Engineering Building." pp A2-A13, S1-S10. November 9, 1959.

Commission on Engineering and Technical Systems. *US Nuclear Engineering Education: Status and Prospects*. The National Academy of Sciences, 1990.

Department of Energy, Hanford Site. "Hanford Cultural and Historic Resources Program." http://www.hanford.gov/doe/history/ (accessed June 26, 2008).

Energy Information Administration. "US Nuclear Reactors." http://www.eia.doe.gov/cneaf/nuclear/page/nuc_reactors/reactsum.html (accessed June 26, 2008).

Great Achievements.org. "Nuclear Technologies Timeline." http://www.greatachievements.org/?id=3691 (accessed June 26, 2008).

Griffith, Deputy State Historic Preservation Officer, Washington State Department of Archaeology and Historic Preservation. Telephone interview with Larry E. Johnson. July 9, 2008.

Harden, Blaine. "In the Northwest, Nuclear Power Takes a Hit." *Washington Post*, May 22, 2006, p. A02.

Hauser, Michael, Architectural Historian, Washington State Department of Archaeology and Historic Preservation. Telephone interview with Larry E. Johnson. July 9, 2008.

Hildebrand, Grant, and T. William Booth. *A Thriving Modernism, The Houses of Wendell Lovett and Arne Bystrom.* Seattle. WA: University of Washington Press, 2004.

L'Architecture d'Ajourd'hui. "Reactur Nucleaire de L'Universite de Washington a Seattle." Paris, 35: LIX, September 1965.

Lovett, Wendell, interviewed by Abby Martin, January 17, 2008.

Lyon, Peter. NRC Commissioner Speech March 22, 2008. Via: https://engineering.purdue.edu/NE/Spotlights/TheNRCina8220NuclearRenaissance8221 (accessed June 26, 2008).

McCormick, Norman. Email correspondence, June 26, 2008.

McFeron, Dean, interviewed by Abby Martin, January 17, 2008.

Mudede, Charles. "Topography of Terror." *The Stranger*, August 22, 2002.

Nuclear Energy Institute, "U.S. Nuclear Power Plants." http://www.nei.org/resourcesandstats/nuclear_statistics/usnuclearpowerplants/ (accessed June 26, 2008).

Nuclear Energy Institute, "Be Part of a Growing Workforce." http://www.nei.org/careersandeducation/careersinthenuclearindustry/bepartofagrowingworkforce/ (accessed June 26, 2008).

Ontario Architecture, "Brutalism." http://www.ontarioarchitecture.com/Brutalist.htm (accessed 6/26/2008).

Pacific Architect Builder. "Project Review." Baltimore, ML: Pelican Books, Ltd. 1943, 1970.

Pevsner Nikolaus. *An Outline of European Architecture*. Harmondsworth, Middlesex, UK: Pelican Books, Ltd. 1943, 1970.

Pope, Daniel. "Antinuclear Activism in the Pacific Northwest." In *The Atomic West*, pp. 236-254. Edited by Bruce Hevly and John M. Findlay. Seattle, WA: University of Washington Press, 1988.

Progressive Architecture. "The Role of the Architect." 45: 171, June 1964.

Puget Sound ASHRAE, "ASHRAE Puget Sound Chapter – Chapter History." http://www.pugetsoundashrae.org/history.htm, ASRE and ASHVE merged in 1959 to form ASHRAE (accessed June 10, 2008).

Schilperoort, Rebekah. "Solar power moves to competitive level." *Ballard News-Tribune*, November 20, 2007, via http://www.ballardnewstribune.com/articles/2007/11/20/news/local_news/news02.txt, accessed June 30, 2008.

Stifler, Lisa. "Wind farms produce power from thin air." Seattle Post-Intelligencer, September 19, 2003, via http://seattlepi.nwsource.com/local/140398_wind19.htm, accessed June 30, 2008.

Streissguth, Daniel, and Gene Zema, interviewed by Abby Martin, January 15, 2008.

Streissguth, Daniel, Abby Martin interview with, 01/12/2008.

Suwiwattankul, S. University of Washington, Facility Management Office, Design Division, "Nuclear Reactor Building, Room Remodel" pgs 1,3. October 13, 1993.

Torrence, Gerard, interviewed by Larry Johnson, June 10, 2008.

University of Washington Master Plan, Seattle Campus. University of Washington, Capital and Space Planning, January 2003.

USGAO Nuclear Security Report to the Ranking Member, Subcommittee on National Security and Foreign Affairs, Committee on Oversight and Government Reform, House of Representatives. January 2008.

Washington State, Department of Licensing. "License Query System." https://fortress.wa.gov/dol/dolprod/bpdLicenseQuery/ (accessed 6/25/2008).

Wood and Associates, "Nuclear Reactor Building Improvements", pgs 1-3, 5. December 28, 1973.

Appendix 1

Figures

University of Washington, 2007

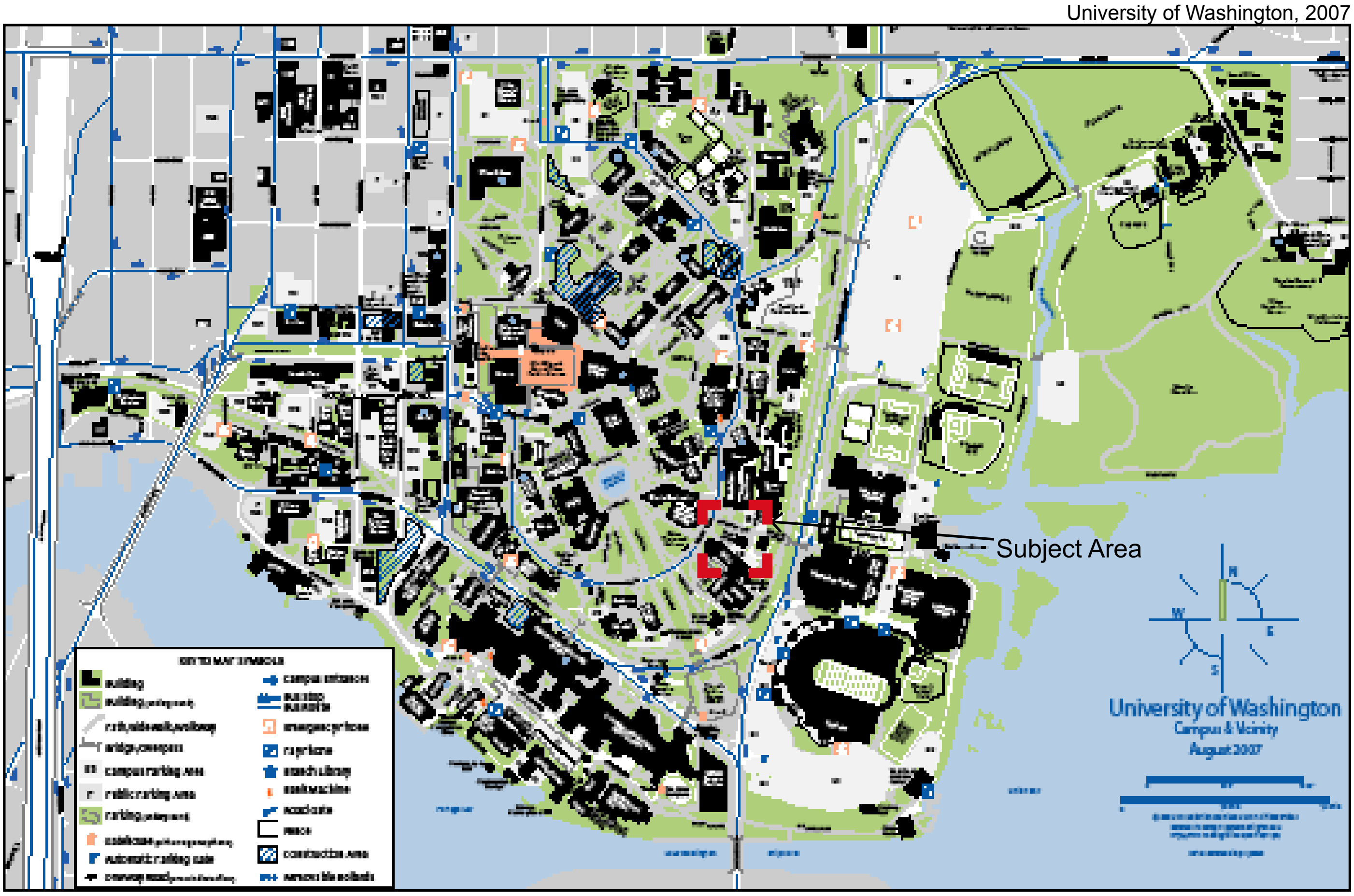


Figure 1 • Vicinity Map

University of Washington, 2003

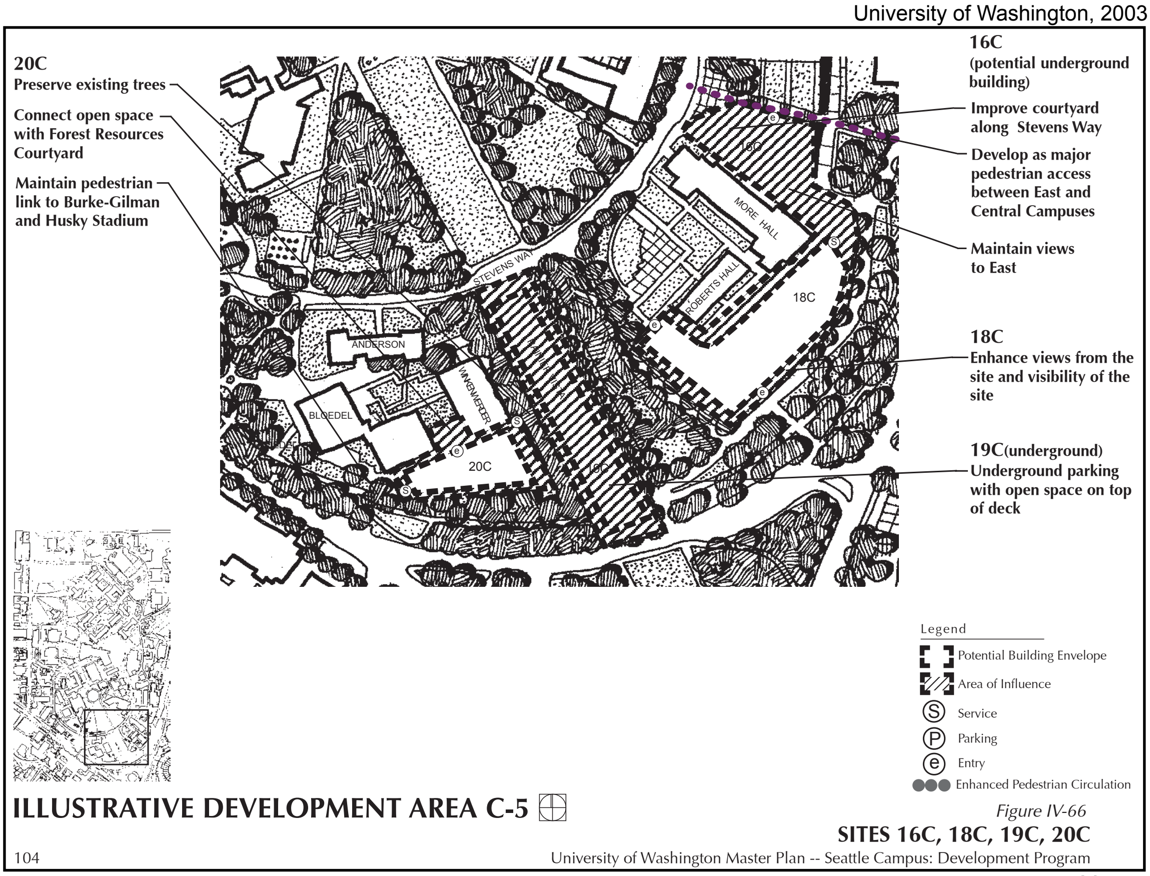


Figure 2 • University of Washington, site development area

N

More Hall Annex
Historic Resources Addendum

August 2008

TAAG, 1959

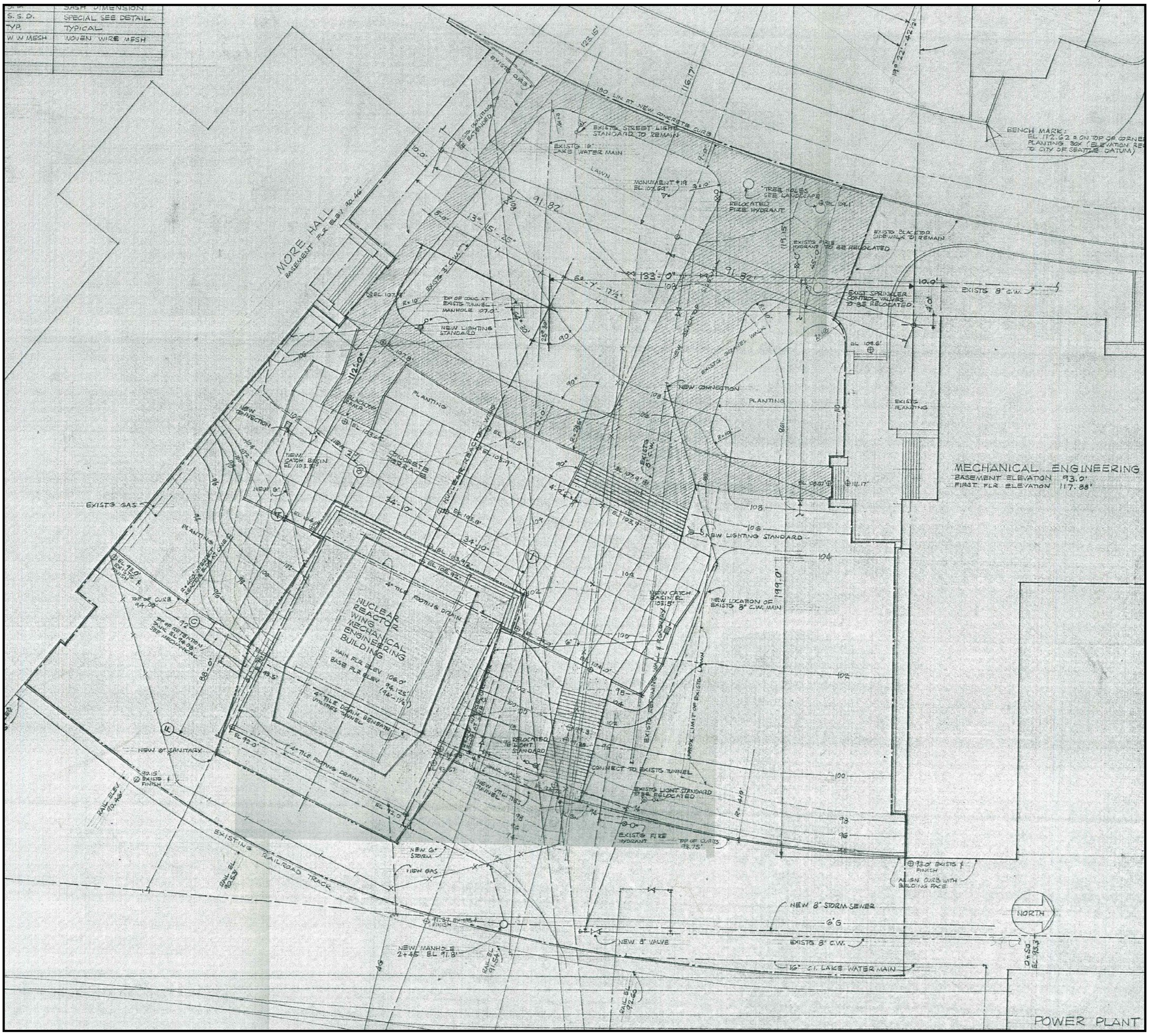


Figure 3 • Site Plan 1′ = 190″

N

More Hall Annex
Historic Resources Addendum August 2008

UW CAUP VRC 2008

Figure 4 • North and west façades

UW CAUP VRC 2008

Figure 5 • West and south façades

UW CAUP VRC 2008

Figure 6 • Partial east and north façades, lower level

UW CAUP VRC 2008

Figure 7 • North and partrial east façade

UW CAUP VRC 2008

Figure 8 • East and partial south façades

UW CAUP VRC 2008

Figure 9 • East and partial south façades, lower level

UW CAUP VRC 2008

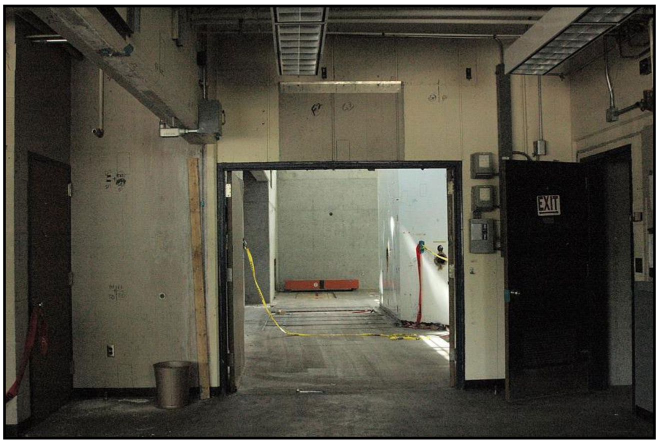


Figure 10 • Viewing west through dirty shop to reactor room beyond

UW CAUP VRC 2008

Figure 11 • Reactor room, viewing east from exterior

UW CAUP VRC 2008

Figure 12 • Reactor room, viewing east

UW CAUP VRC 2008

Figure 13 • Reactor room, viewing south

Arts and Architecture

Figure 14 • View of south and east façades, 1963

UW Special Collections, UWC1461

Figure 15 • West and east façades, 1963

UW CAUP VRC 2008

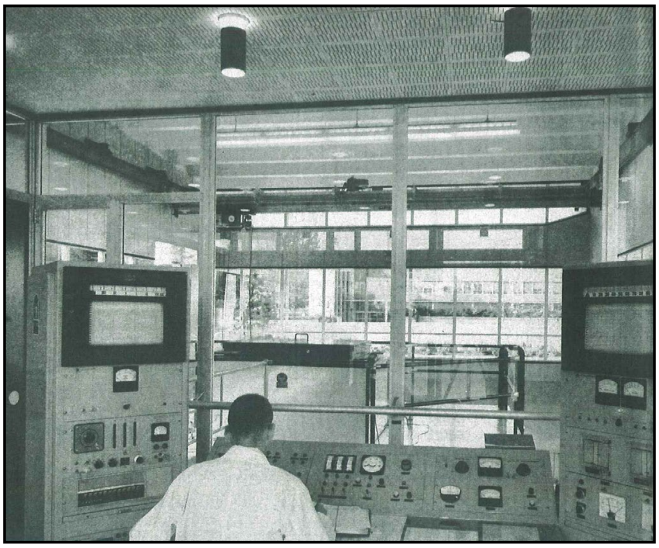


Figure 16 • University of Washington, Nuclear Reactor Building control room, viewing west

Figure 17 • University of Washington, Nuclear Reactor Building, control room

Architecture West, 1962

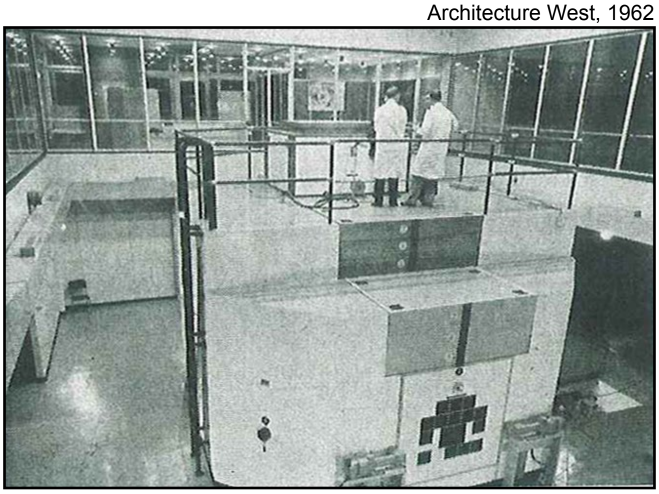


Figure 18 • University of Washington, Nuclear Reactor Building, Reactor Room, viewing west

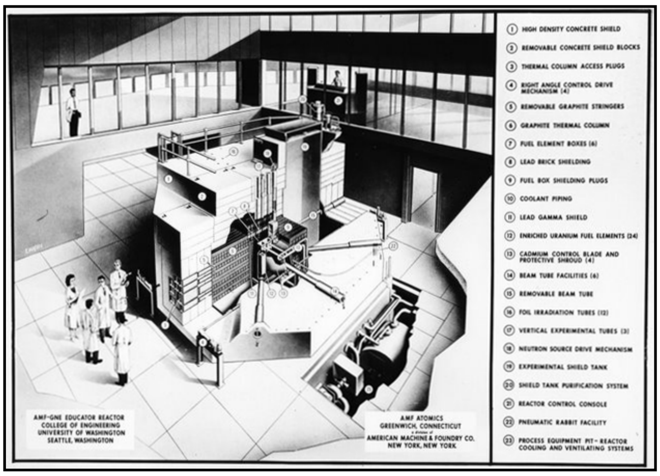


Figure 19 • Schematic of University of Washington, Nuclear Reactor Building, reactor room

Matthew B. Zimmerman, USA TODAY, 2008

Figure 20 • Reactor B, Hanford, WA

Architectural Record, 1963

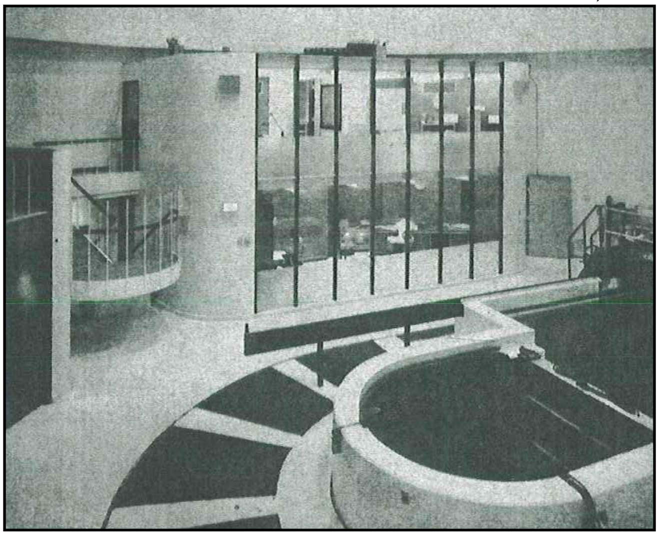


Figure 21 • Nuclear Science Teaching-Research Center, Texas A&M University, interior, Caudill, Rowlett and Scott

Architectural Record, 1963

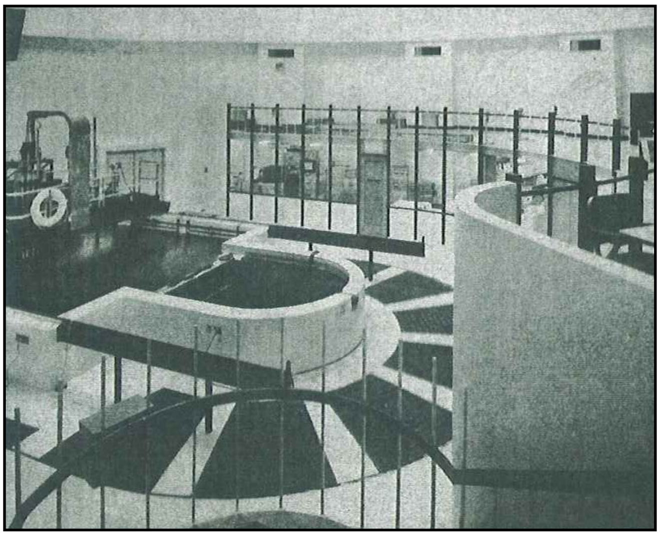


Figure 22 • Nuclear Science Teaching-Research Center, Texas A&M University, interior, Caudill, Rowlett and Scott

Architectural Record, 1963

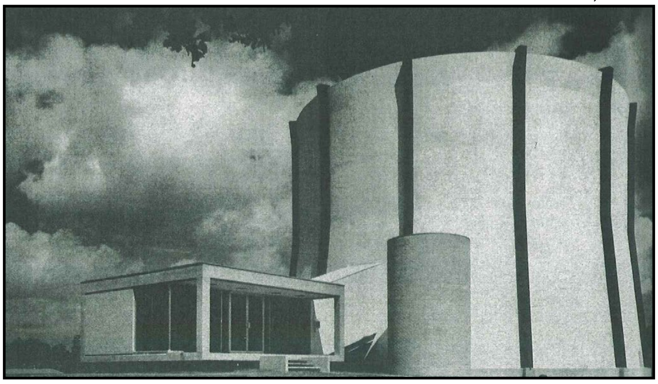


Figure 23 • Nuclear Science Teaching-Research Center, Texas A&M University, exterior, Caudill, Rowlett and Scott cvrr.ucsd.edu/imgallery/index.html

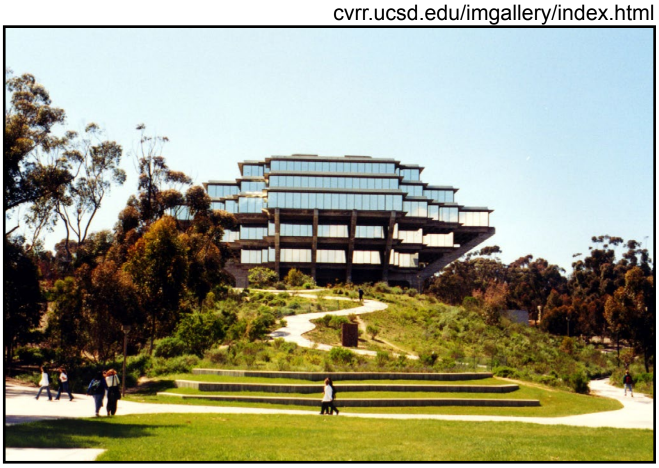


Figure 24 • Geisel Library, UCSD, San Diego, William L. Pereira, 1971

architecture.myninjaplease.com

Figure 25 • Boston City Hall, Kallman, McKinnell and Knowles, 1968

www.flickr.com/photos/gelund/449907584/

Figure 26 • Kane Hall, University of Washington, Walker, McGough, Foltz, Lyerla, 1971

UW CAUP VRC 2002

Figure 27 • Gould Hall, University of Washington, Streissguth and Zema, 1972

UW CAUP VRC 2002

Figure 28 • Gould Hall, University of Washington, interior court, Streissguth and Zema, 1972

Kidder Smith

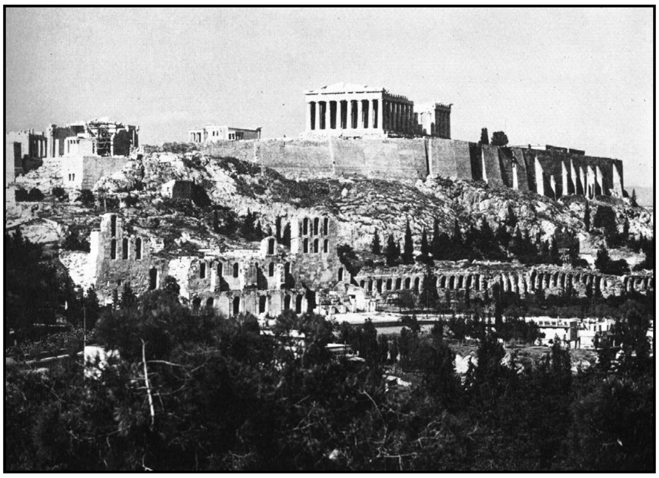


Figure 29 • Parthenon, Athens, Greece, 447 BC

Heyer

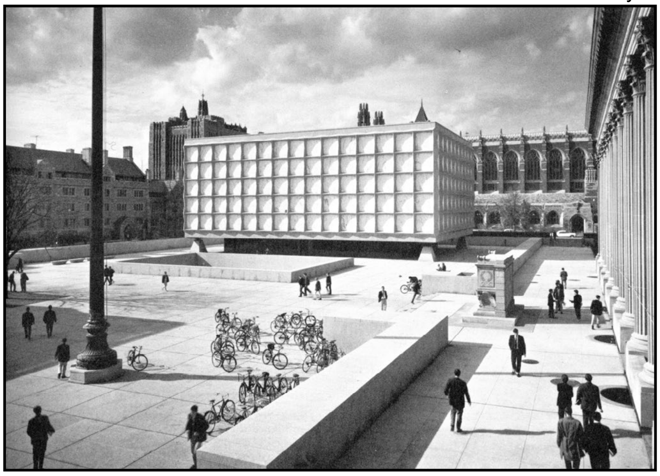


Figure 30 • Beinecke Rare Book Library, Yale Campus, New Haven, CT, Skidmore, Owings and Merrill, 1964

Heyer

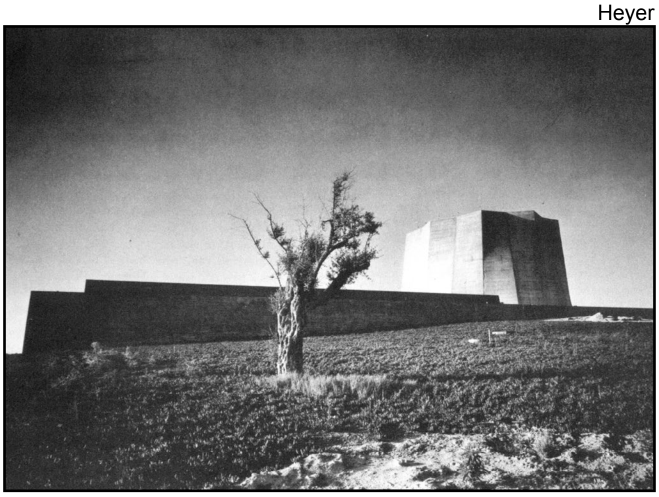


Figure 31 • Nuclear Reactor, Rehovot, Israel, Phillip Johnson, 1961

Seattle Scottish Rite

Figure 32 • Seattle Scottish Rite Temple viewing northwest from parking lot, NBBJ, 1964

Paul Thiry Colletction

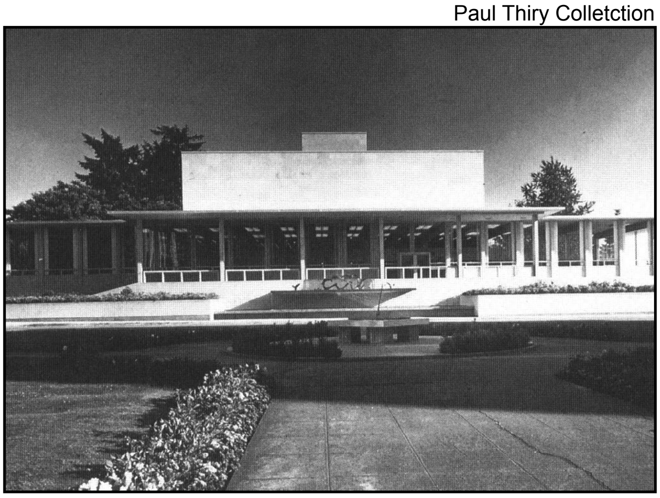


Figure 33 • Washington State Library, Olympia, Paul Thiry, 1959

Paul Thiry Collection, Hugh Stratford

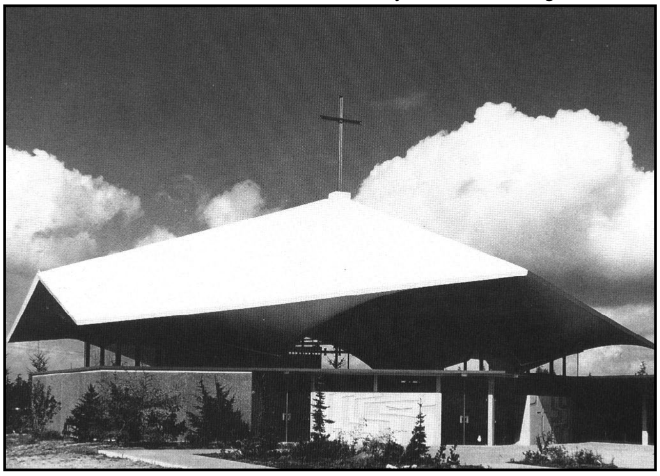


Figure 34 • Mercer Island Presbyterian Church, Paul Thiry, 1960

UW SCD, Hupy 5157-4, Art Hupy 1950

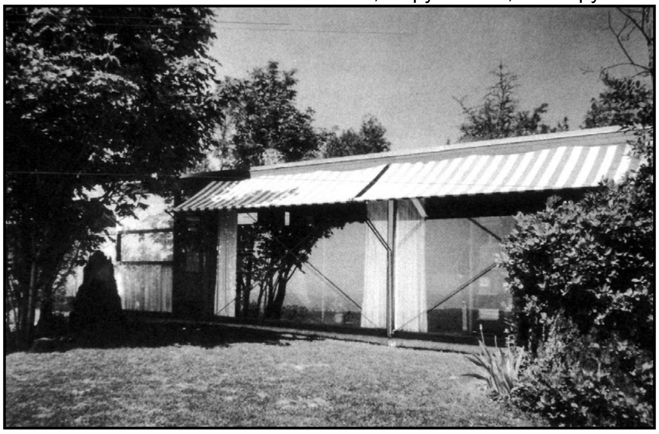


Figure 35 • Lovett Residence Hilltop #1, Seattle, Lovett, 1951

UW SCD Dearborn-Massar, DMA0927 1959

Figure 36 • Lovett Residence II, Seattle, Lovett, 1957

UW SCD, Dearborn-Massar, DMA0903 1959

Figure 37 • Giovanelli Residence, Mercer Island, Lovett, 1959

CAUP Visual Resources Collection, Lovett 1971

Figure 38 • Lovett Residence Hilltop #2, Seattle, Lovett, 1963

CAUP Visual Resources Collection, Lovett 1971

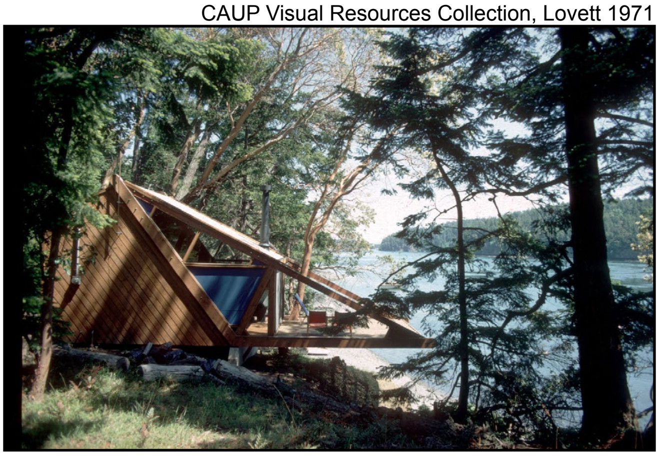


Figure 39 • Lovett Vacation House, Crane Island, Lovett, 1970

CAUP Visual Resources Collection, Hildebrand 1996

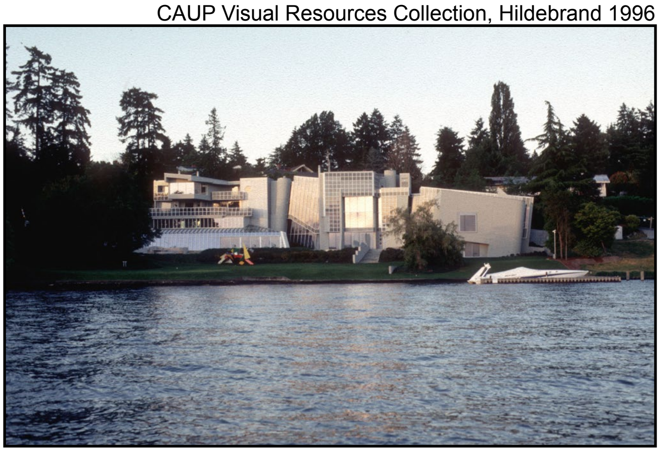


Figure 40 • Villa Simonyi, Bellevue, Lovett, 1987

The Johnson Partnership, 7/15/2008

Figure 41 • Wells Medina Nursery, Medina, Streissguth and Zema, 1968

UW Special Collections, Art Hupy, 1956

Figure 42 • Gene Zema Office, 200 E Boston Street, Zema, 1953

UW Special Collections, Art Hupy

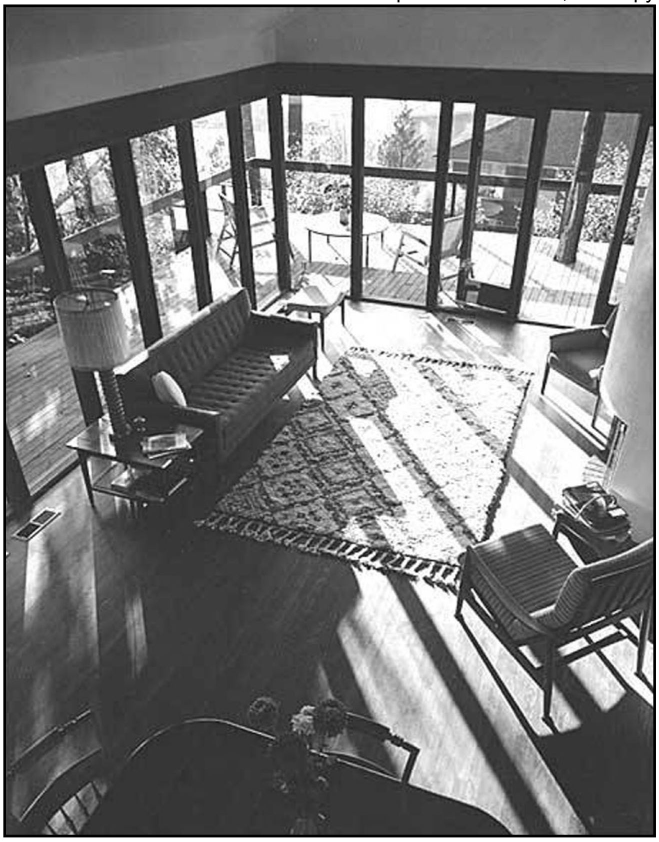


Figure 43 • Lupton House Living Room, Zema

UW CAUP VRC

Figure 44 • Gene Zema Residence, Whidbey Island, Zema, 1961

UW CAUP VRC

Figure 45 • Gene Zema Residence, Whidbey Island, Zema, 1961 www.rondi.com

Figure 46 • Dr. and Mrs. Richard Johnson Residence, 2401 Killarney Way SE, Bellevue, Zema, 1962

The Johnson Partnership, 7/15/2008

Figure 47 • 4234 51st Avenue NE, Seattle, Zema, 1962

UW Special Collections, Art Hupy, 1966

Figure 48 • Gene Zema Residence, Seattle, Zema, 1965

The Johnson Partnership, 7/15/2008

Figure 49 • 9520 SE 15th St, Bellevue, Zema, 1966

The Johnson Partnership, 7/15/2008

Figure 50 • 2222 16th Ave E, Seattle, Zema, 1969

The Johnson Partnership, 7/15/2008

Figure 51 • Zema Office Building and Japanese Antique Gallery, Eastlake and Boston, Seattle, Zema, 1968 baptistehomes.com

Figure 52 • 7053 Beach Dr SW, Seattle, Chittock, 2007

UW SCD Mary Randlett, MPH327

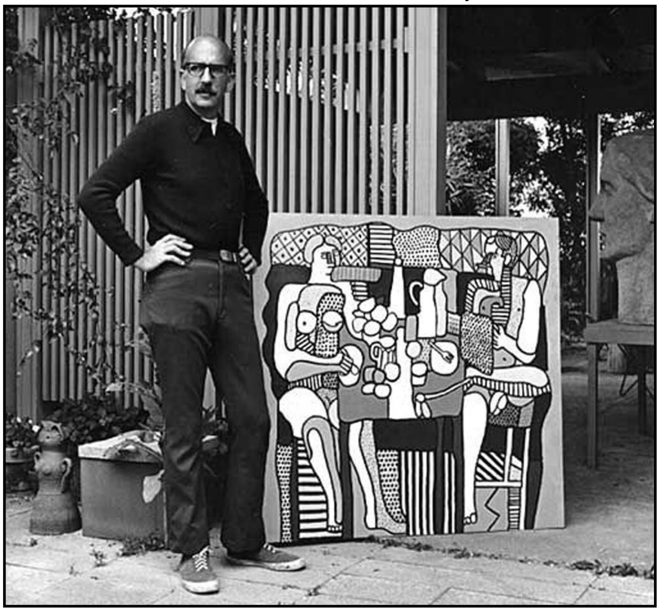


Figure 53 • Spencer Moseley, May 1971

Appendix 2

Figures – 2015 Condition Photographs

The Johnson Partnership, March 2015

Figure 1 • More Hall Annex, northern and western façades

The Johnson Partnership, March 2015

Figure 2 • More Hall Annex, northern and southern façades

The Johnson Partnership, March 2015

Figure 3 • More Hall Annex, eastern façade

The Johnson Partnership, March 2015

Figure 4 • More Hall Annex, detail of western façade overhang

Figure 5 • More Hall Annex, detail of southern façade overhang

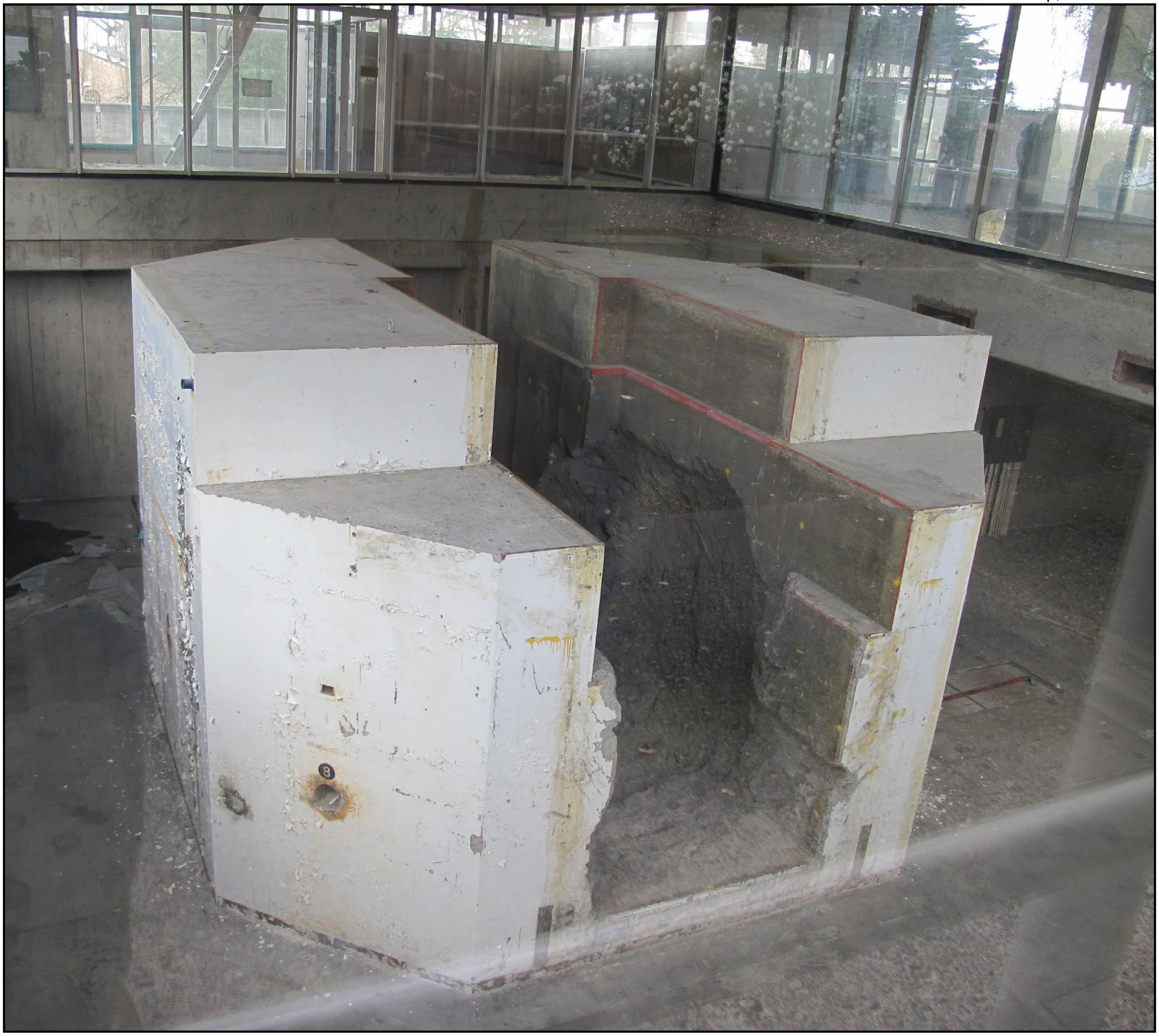


Figure 6 • More Hall Annex, viewing southeast into decommissioned reactor core

APPENDIX B

Cultural Resources Report

DRAFT—Archaeological Background Record Search for the Science and Engineering Facilities on the University of Washington Campus, City of Seattle, King County, Washington

Submitted to:
EA Engineering Science and Technology, Inc.

Submitted by:
Historical Research Associates, Inc.
Carol Schultze, PhD, RPA

Seattle, Washington
June 2015

Historical Research Associates, Inc.

This report was prepared by HRA Principal Investigator Carol Schultze, PhD, RPA, who meets the Secretary of the Interior's professional qualifications standards for archaeology. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to archaeological resources based on the results of HRA's research. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.

Executive Summary

The University of Washington (UW) is planning to expand the Science and Engineering Facilities on the University of Washington Campus (the Project). EA Engineering, Science and Technology, Inc. (EA), is managing the environmental review of this Project for the UW. In June 2015, EA contracted with Historical Research Associates, Inc. (HRA), to conduct an archaeological record search for three Alternative Areas of Impacts (AIs) and near vicinity in order to determine if an archaeological inventory is warranted. It is the understanding of HRA that an architectural inventory is not necessary at this time.

HRA conducted background research to address the potential of encountering archaeological sites during the Project. State records of known archaeological sites within a 0.5 mile buffer surrounding the AIs were reviewed. Archival research additionally indicated a number of ethnographically recorded Native American place names in the vicinity of the AIs. Historic period and modern development activities associated with the growth of the UW and the City of Seattle have modified and disturbed the terrain. However, the topography and location of Alternatives 1 and 2 makes it a very likely place for prehistoric archaeological sites. As a result an archaeological inventory is recommended.

The sloping terrain of the Alternative 3 makes it a less likely location for archaeological sites; therefore, an inventory is not recommended. If the project design is changed in ways that will change the area of ground disturbance, additional research and or inventory may be required.

Table of Contents

List of Figures

List of Tables

1. Introduction and Project Description

The University of Washington (UW) is planning to expand the Science and Engineering Facilities on the University of Washington Campus (the Project). The project is located in Township 24 North, Range 4 East, Section 16, Willamette Meridian, and is depicted on the Seattle North 7.5 minute topographic quadrangle (Figure 1-1). There are three alternatives under consideration. All are located in the southwestern section of the UW campus.

The Project requires site selection for the construction of new 130,000 gross square foot above and below grade building. The new building will create expansion space for education and research for the Computer Science and Engineering program. The structure will house new instructional space, undergraduate student spaces, research and educational labs, shops, offices, and event space. Three alternatives will be analyzed.

EA Engineering, Science and Technology, Inc. (EA), is managing the environmental review of this Project for the UW. In June 2015, EA contracted with Historical Research Associates, Inc. (HRA), to conduct an archaeological record search for three Alternative Areas of Impacts (AIs) and near vicinity in order to determine if an archaeological inventory is warranted. It is the understanding of HRA that an architectural inventory is not necessary.

1.1 Regulatory Context

The UW, as the lead agency for the Project, has determined that it has the potential to have a significant adverse impact on the environment and, as such, is preparing an Environmental Impact Statement (EIS) pursuant to Chapter RCW 43.21C.030.

1.2 Area of Impacts

The AIs are defined here as the horizontal and vertical extent of direct ground disturbance and modification (Figure 1-2). The AI for Alternatives 1 and 2 shares the same physical location. This location is on relatively flat terrain and is bounded by Stevens Way NE on the west, the Mechanical Engineering and Engineering Annex on the north, Mason Road on the east, and More Hall on the south. Structures located within Alternatives 1 and 2 include the More Hall Annex and a small covered area plus a pedestrian walkway and grassy open space.

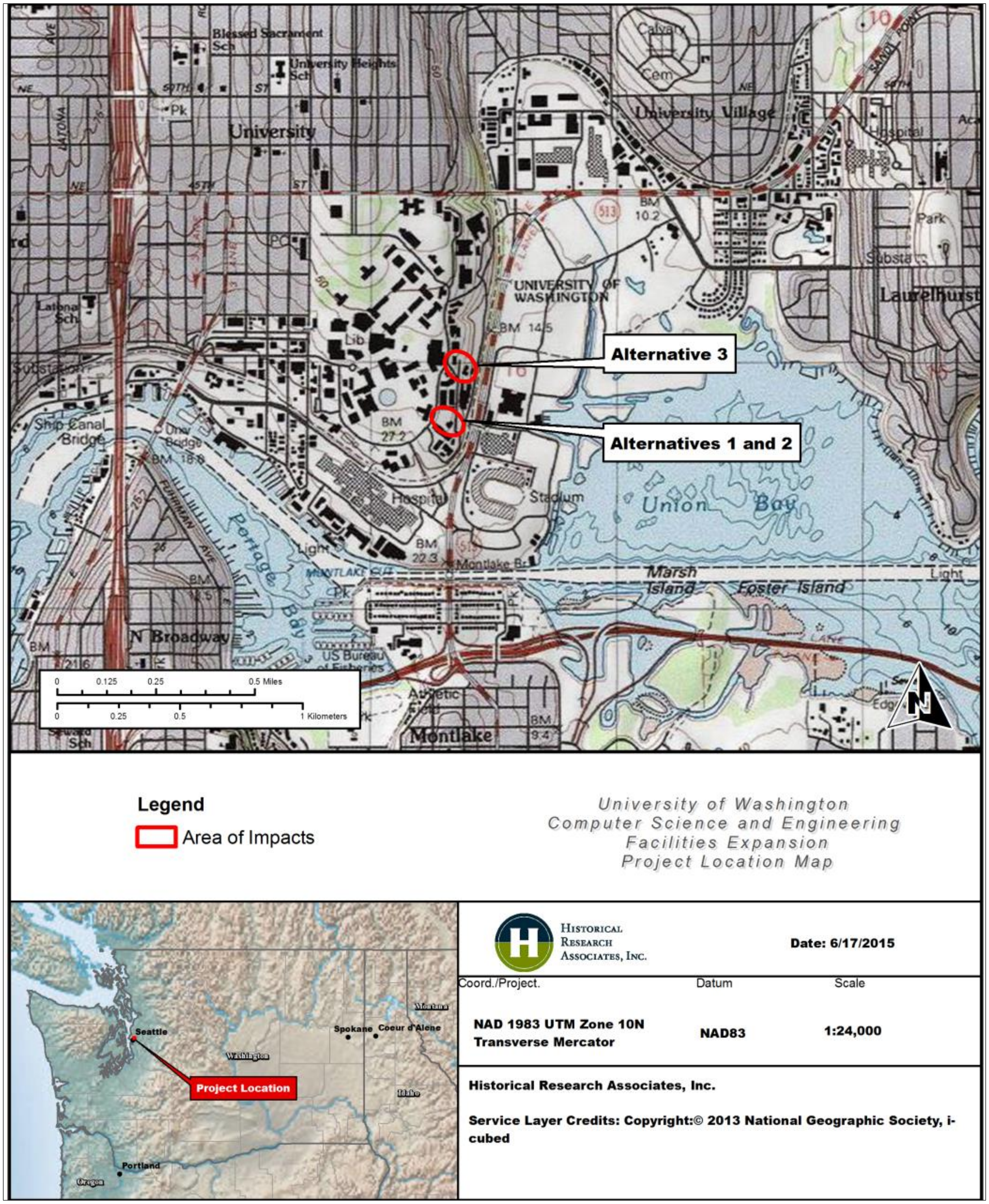


Figure 1-1. Project Location and Area of Impacts.

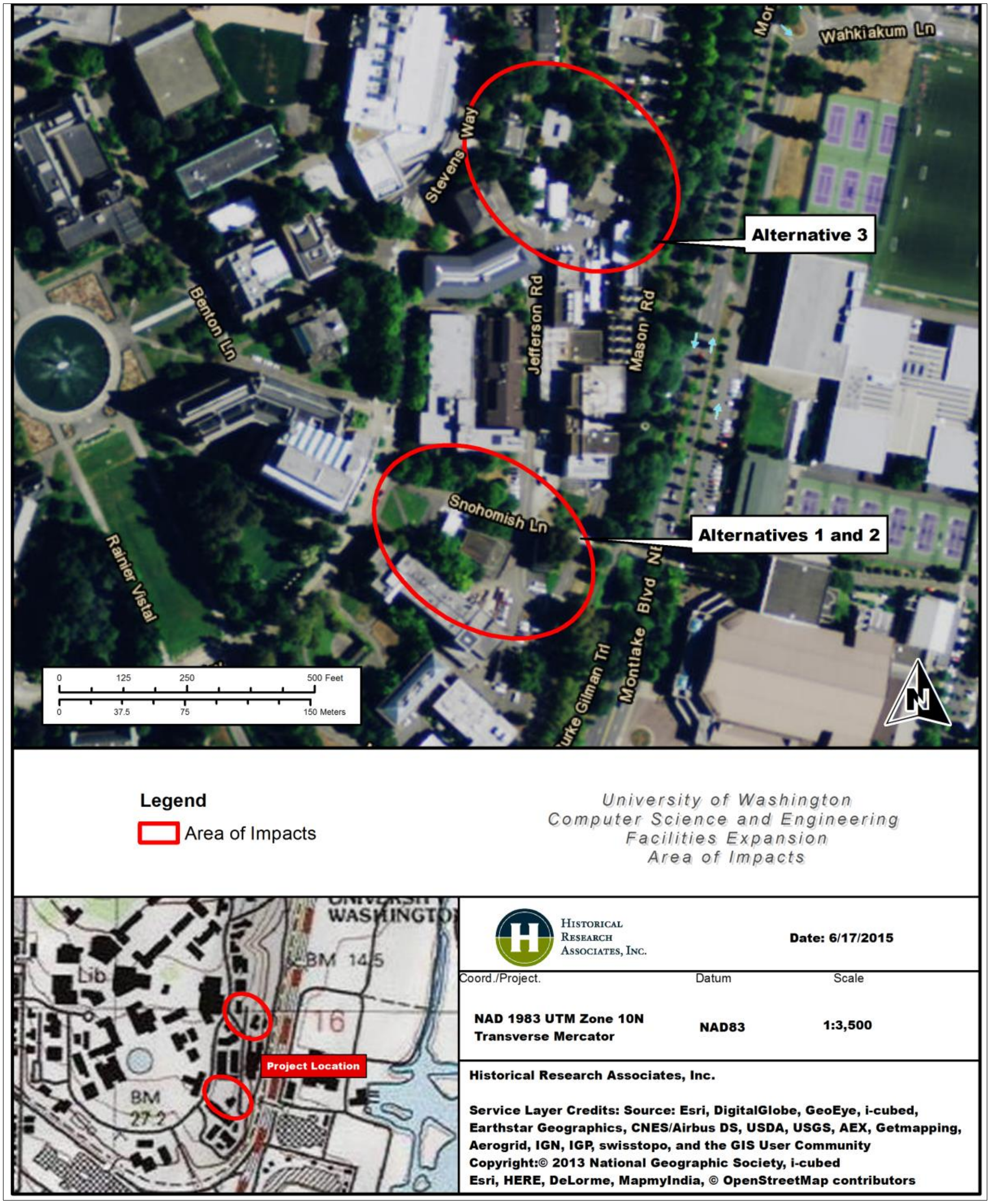


Figure 1-2. Location of the Areas of Impacts for Alternatives 1, 2, and 3

Alternative 3 is on more topographically rugged terrain, sloping downward to the east. It is bounded by Stevens Way NE, Loew Hall, and the Engineering Library on the west; the Facility Services Administration Building, the University Facilities Building, and Annex I and 2 on the north; the Plant Operations Annexes 4 and 3 and Mason Road on the east; and the Power Plant on the south. Structures within Alternative 3 include two University Facilities Buildings surrounded by tree-covered walkways and parking areas.

2. Archival Research

This report provides a review of archival data, including previous cultural resources surveys; documented archaeological sites; historic-period buildings, structures, and objects (BSOs); historic maps; and as-built engineering drawings provided by UW. Understanding previous cultural resource surveys, known cultural resources, and the amount of ground disturbance in the vicinity of a Project is important for understanding the potential for archaeological materials to be recovered.

2.1 Research Methods and Materials Reviewed

HRA archaeologist Carol Schultze conducted an archival search for records within a 0.5 mile (mi) radius of the AIs. Schultze searched the Department of Archaeology and Historic Preservation's (DAHP's) online database (WISAARD) for archaeological site records, cultural resource survey reports, historic property inventory (HPI) forms, historic register information, and cemetery records. A statewide archeological predictive model on DAHP's WISAARD was reviewed for probability estimates for archaeological resources. The UW provided access to as-built engineering drawings for the buildings and facilities within the AIs, which were reviewed for their ground disturbing potential.

Since the AIs are less than 0.2 mi apart, the results of a 0.5 mi buffer record search for both AIs produced the same results. There are no additional surveys, sites, or cultural resources recorded within the buffer of the Alternatives 1 and 2 AI that are not also included in the buffer for the Alternative 3 AI. Differences within the AIs that were identified are discussed below.

2.2 Previous Cultural Resource Studies

Twenty-two cultural resources studies have been performed within the 0.5 mi radius of the two AIs (Appendix A). Many of these were in advance of government-funded transportation projects, including the SR 520 bridge expansion and light rail projects (Blukis Onat 2005; Johnson 2010; Elder 2011a, 2001b, 2011c, 2013; Schneyder 2011; Gray 2011; Courtois & Associates 2003; Courtois et al. 1998, 1999; Wilson et al. 2014). Others were related to cell phone towers (Emerson 2009a, 2009b, 2009c; Rooke 2002) which also required compliance with Federal regulations. Several more were conducted in conjunction with proposed work on the UW campus, implicating compliance with State- and University-level regulations (BOLA 2010; Gilpin and Vogel 2011; Sharley and Smith 2011; Stevenson and Dellert 2013; Stevenson and Little 2014; Stevenson et al. 2014). Most of these surveys were conducted in areas that had seen moderate to high degrees of historic-period disturbances related to their location in the developed, urban areas of northeast Seattle. Historic period archaeological sites were discovered by these projects and will be discussed below.

2.3 Previously Recorded Archaeological Sites

One prehistoric and four historic period sites have been recorded within 0.5 mi of the AIs (Table 2-1). The nearest prehistoric site is approximately 0.4 mi west of the AIs (45KI957). It is a prehistoric scatter that consists of a side-notched chert projectile point and two quartzite flakes that were observed in an eroded slope above the Burke Gilman trail (Louderbeck and Jolivette 2009).

Table 2-1. Previously Recorded Archaeological Sites within 0.5 mi of the AI.

Site/Isolate Number	Resource Name	Resource Type	Distance from Project Area	Reference	NRHP Eligibility Status
45KI957	UW Greenhouse	Precontact lithic scatter	~0.4 mi southeast	Louderbeck and Jolivette 2009	Not evaluated
45KI827	Nuclear Reactor Building	National Register Property	Within the Alternatives 1 and 2 AI	Martin 2008	Listed
45KI1030	Lewis Hall Stone Staircase	Historic Structure	~0.3 mi north	Gilpin 2011	Not evaluated
45KI1201	University Landfill	Historic Debris Concentration	~0.3 mi east	Lockwood 2014	Not evaluated
45KI952	Historic Isolate	Historic-period bottle	~0.1 mi south	DAHP 2010a	Not eligible (isolated find)
45KI955	Unnamed	Historic Public Works	~0.1 mi south	DAHP 2010b	Not evaluated

Archaeological site 45KI1030 is located approximately 0.3 mi north of the Alternative 3 AI. It is the remains of a stone stairway leading from the southeastern corner of Haggett Hall toward Lewis Hall, from the western side of road (Whitman Court). The route of the stairs follows a foot path and is made of shaped basaltic cobbles without mortar (Gilpin 2011). Historic-period site 45KI1201 is 166 acres of reclaimed marshland owned by the UW, located approximately 0.4 mi east of both AIs. Garbage from the surrounding Montlake, Laurelhurst, University, and Green Lake neighborhoods was used to in-fill the marsh from 1926 to 1966. The area was subsequently capped with fill and now is used for parking and sports fields (Lockwood 2014).

The historic-period isolate (45KI952), located approximately 0.1 mi southeast of the Alternatives 1 and 2 AI is a complete brown glass bottle, machine-made, and most likely manufactured in the 1920s or early 1930s. The bottle was observed approximately 4 feet (ft) below modern ground surface, in construction fill comprising the Husky Stadium parking lot E11 (DAHP 2010a). Historic-period archaeological site 45KI955, in the same vicinity, consists of an abandoned wire-wound wood stave pipeline, and associated metal pipeline. The wood stave pipe is estimated to have been installed in the early 1900s, as a part of the early Seattle sewage system (DAHP 2010b).

2.4 Historic Period Building, Structures, and Objects

Although consideration of historic-period BSOs is outside the scope of the current study, it should be noted that the Alternatives 1 and 2 AI is the location of the National Register of Historic Places (NRHP) listed nuclear reactor building (45KI827). Although it is less than 50 years old, it is considered an important landmark in the history of technology and industry in the United States (Martin 2008).

2.5 Cemeteries

There are no cemeteries within 0.5 mi of the AIs. The nearest cemetery is the Calvary Cemetery, located on NE 47th Street, approximately 0.7 mi northeast of the Alternative 3 AI (DAHP 2009). The earliest burial at this cemetery dates to 1901.

2.6 Historic-Period Map Research

HRA examined a number of historic-period to modern maps and aerial photographs depicting the vicinity of the AIs, available online and at the UW libraries. Historic nineteenth-century maps created by the United States Surveyor General (USSG) General Land Office (GLO) depicts the Native American overland trail used to travel between Portage Bay (Lake Union) and Lake Washington as travelling across the north edge of Alternatives 1 and 2 (Figure 2-1). Buildings built for the Alaska–Yukon–Pacific Exposition formed the initial core of the UW campus. Their locations in reference to the AIs are shown in Figure 2-2. Only a pedestrian walkway is shown at that time crossing the Alternatives 1 and 2 AI. A single, relatively small building is situated at the northern edge of the Alternative 3 AI, which is otherwise undeveloped. A thorough historic map study of the vicinity of both AIs can be found in the inventory report, *An Archaeological Assessment for the wəłəbʔaltxʷ, or Intellectual House Project, University of Washington, Seattle, King County, Washington* (Gilpin and Vogel 2011:9–10).

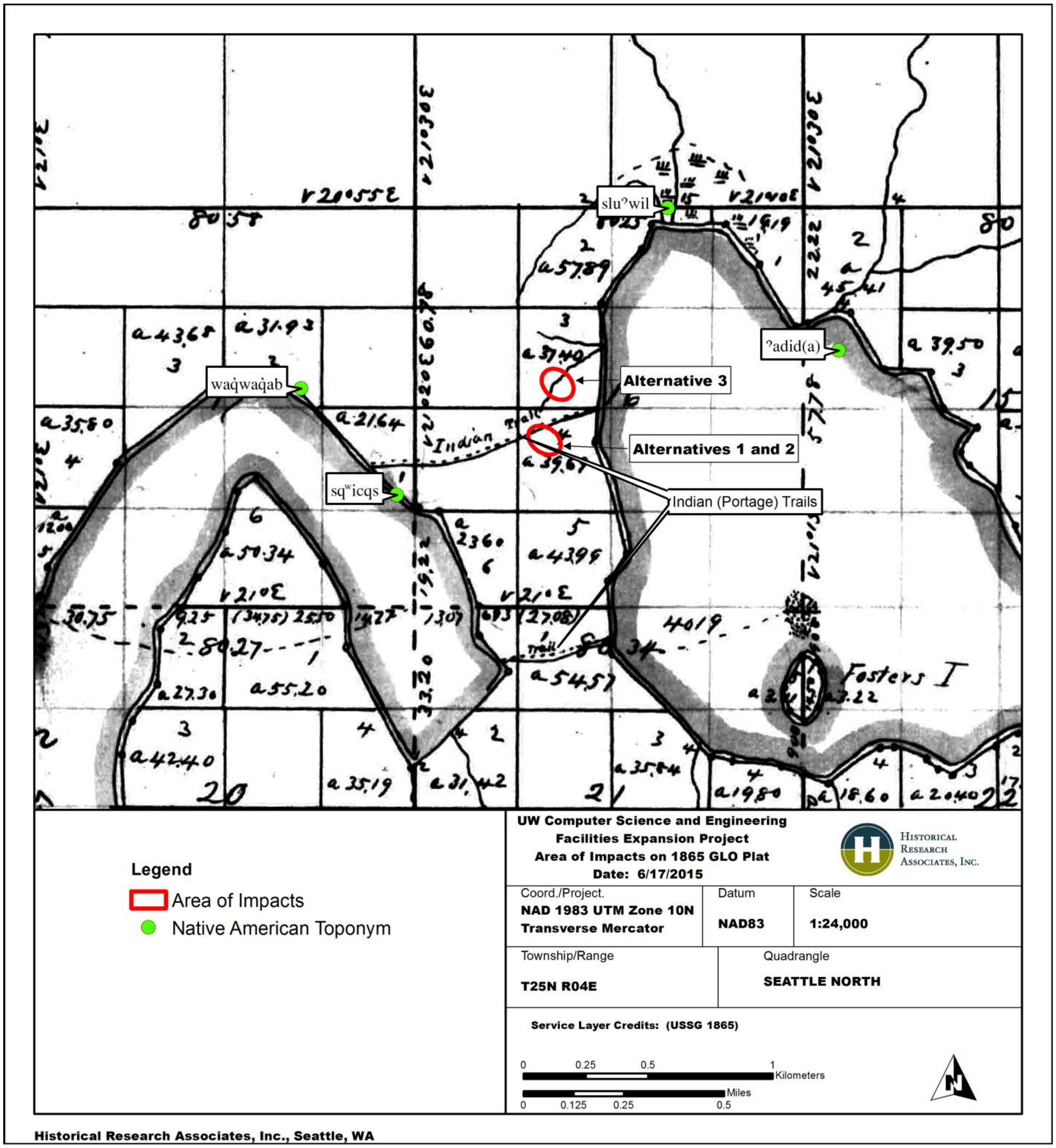


Figure 2-1. Native American place names (toponyms) and features in the vicinity of the AIs.

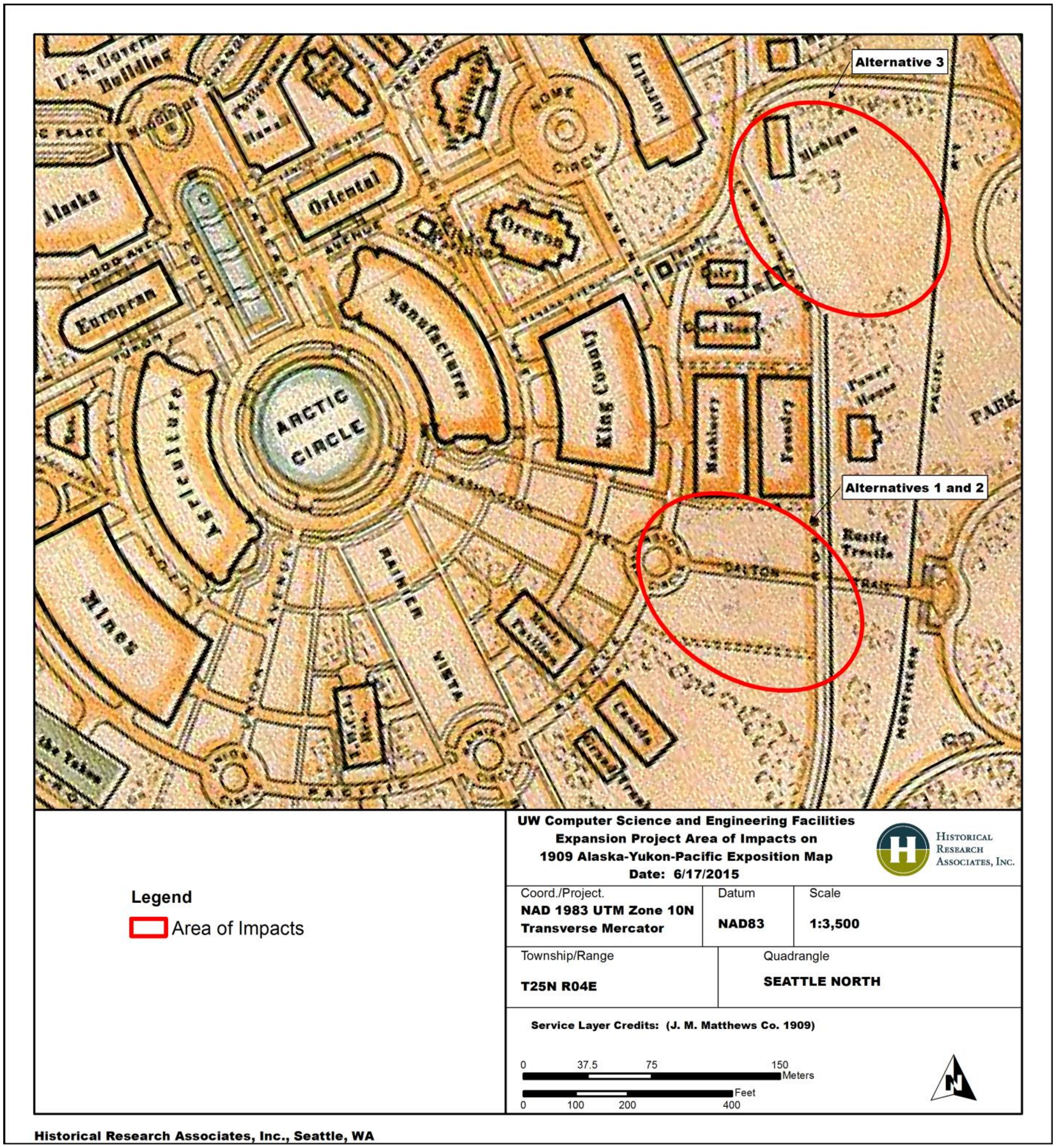


Figure 2-2. Location of the AIs on the 1909 map of the Alaska–Yukon–Pacific Exposition buildings.

2.7 University of Washington As-Built Maps

The UW granted HRA access to examine the construction engineering and facilities records detailing the history of the built environment on campus. The Alternatives 1 and 2 AI currently encompasses the location of More Hall Annex. This structure was built in 1961 and has a basement and utility vaults (UW Facilities Records 2015a). The More Hall Annex houses a nuclear reactor built in 1974 and is listed on the NRHP.

The Alternative 3 AI is currently the location of two buildings identified as University Facilities Buildings. The buildings were listed on the UW facilities webpage, as "Plant Ops Annex 1," but no as-built drawings were available (UW Facilities Records 2015b). The buildings are elevated over the sloping terrain and cover the majority of the area within the Alternative 3 AI. It is likely that they have foundations and utility vaults, and that their construction would also have caused ground disturbance in the Alternative 3 AI.

Inventory and evaluation of these buildings is outside the scope of this report, but for the purpose of archaeological resources (limited to below-ground or prehistoric resources), the placement and construction history of these buildings constitutes substantial disturbance and landform alteration within both of the AIs.

2.8 Native American Place Names

T. T. Waterman (Hilbert et al. 2001) identified several Duwamish ethnographic place names (toponyms) in the vicinity of the AIs (see Figure 2-1). The "Indian Trail" that connected Lake Washington and Lake Union is shown passing along the northern edge of the Alternatives 1 and 2 AI (USSG 1865). He described identifiable physical locations along the lake shores and nearby landforms. Approximately 0.4 mi west of the AIs is a location called *waq̓waq̓ab*, translated as "like a frog." At this location, a small creek drains into Portage Bay. Along the Portage Bay shoreline, and approximately 0.1 mi southwest of the Alternatives 1 and 2 AI, Waterman's informants identified a small promontory (now the location of the UW Boat Club) as *sqʷicqs*, "down river promontory." The marsh between Laurel Point and the UW, now filled in, and the location of parking lots for the UW and Husky Stadium, was known as *sluˀwił*, translated as "perforation for a canoe." A village with at least five longhouses was located here, along with a fish weir. This is the closest identified village, roughly 0.1 mi northeast of the Alternative 3 AI.

2.9 DAHP Predictive Model

The DAHP predictive model for archaeological sites is based on statewide information, using large-scale factors. Information on geology, soils, site types, landforms, and from GLO maps was used to establish or predict probabilities for archaeological resources throughout the state. The DAHP model uses five categories of prediction: Low Risk, Moderately Low Risk, Moderate Risk, High Risk, and Very High Risk. The DAHP predictive model map indicated that the AIs for both Alternatives are located in a High to Very High Risk area for encountering archaeological sites.

3. Environmental and Cultural Context

This chapter provides a brief overview of the local environment, including historic modification to this landscape and natural resources. Understanding the local environment including geology, climate, flora, and fauna is important for understanding how people used the landscape in the past. This environmental context is necessary for developing expectations for archaeological resources in the AIs. A thorough discussion of environmental and cultural context in the vicinity of the AIs can be found in *An Archaeological Assessment for the wəɫəbʔaltxʷ, or Intellectual House Project, University of Washington, Seattle, King County, Washington* (Gilpin and Vogel 2011) and in *Cultural Resources Inventory for the University of Washington Burke-Gilman Trail, Rainier Vista to Northeast 47th Street (Forest Reach) Segment, City of Seattle* (Stevenson et al. 2014).

3.1 Physical Environment

The AIs are located on the southeastern portion of the UW campus, approximately 0.2 mi north of the Montlake Cut and 0.4 mi west of the modern-day shoreline of Lake Union. They are located within the Southern Puget Sound Basin, a portion of the Puget Trough Physiographic Province (Franklin and Dyrness 1973). Sediments at the surface across both AIs are Pleistocene era glacial drift deposits (Booth et al. 2004; DNR 2015).

By approximately 6,000 years ago, the climate of the region had cooled and moistened to levels comparable to today's maritime regime, producing the current western hemlock (*Tsuga heterophylla*) vegetation zone. Presently, uplands are moderately to heavily forested with Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), and western red cedar (*Thuja plicata*). Red alder (*Alnus rubra*) and big-leaf maple (*Acer macrophyllum*) represent secondary species in forested habitats and are dominant in disturbed areas (Barnosky 1984; Barnosky et al. 1987; Brubaker 1991; Whitlock 1992).

3.2 Cultural History

The AIs are located within the traditional territory of the Duwamish Indians, members of the Coast Salish cultural group that spoke a dialect of Southern Lushootseed (Suttles 1990). The Duwamish traditionally lived in winter villages on the shores of Elliott Bay, Salmon Bay, Lake Washington, and Lake Union, as well as along the Black, Cedar, and Duwamish Rivers (Ruby and Brown 1992; Stevens 1854; United States Court of Claims 1927).

The first Euroamerican settlers in the vicinity of the AIs were the Denny Party, who arrived in 1851 (Bagley 1929). Within a decade, the 302 settlers living in Seattle had been granted the right to open the State University in the young city. The first university building was not at the present UW campus location, but was constructed in 1861 on 10 acres of "Denny's Knoll," which would eventually become Seattle's commercial downtown district. The present UW campus location was selected in the early 1890s (Courtois & Associates 2003). In 1891, William Boone was the first architect to develop a campus plan. While his plan was never realized, it illustrates hypothetical building placement and also appears to show that the campus was forested at the time of his design.

The Alaska–Yukon–Pacific Exposition (AYPE 1909), or World's Fair, was held on the southern portion of the University Campus, where little previous development had occurred. This project created the core buildings of the UW campus, including the locations of the AIs (see Figure 2-2).

The UW and the surrounding residential and commercial districts grew rapidly during the twentieth century (Courtois & Associates 2003). This growth came with a necessary expansion of public utilities to supply electricity, water, and sewer services to the buildings surrounding Lake Washington and Lake Union. In 1908, Seattle constructed an 8 ft diameter sewer by tunneling roughly 20 ft below surface in the vicinity of Northeast Pacific Street, near the AI to the southwest. Waterlines, natural gas lines, and a number of other utilities, including fiber optic and electrical lines, were installed across the AIs during the late twentieth century.

4. Expectations for Hunter-fisher-gatherer, Ethnographic Period, Historic Indian, and Historic Euroamerican Cultural Resources

Based on archival research, as well as the environmental and the cultural settings, the Alternatives 1 and 2 AI has a high probability for observing precontact to ethnohistoric period cultural remains. There are several Native American place names in the vicinity, and there is a recorded Native American trail crossing the Alternatives 1 and 2 AI. The AI is also near the shoreline where Native American settlements are most likely to be found. The topography in the Alternative 3 AI is sloping and would be less ideal a location for settlement. There is a moderate to high probability for finding precontact to ethnohistoric period cultural remains in this location.

Both of the AIs have been the subject to development including excavation of foundations and grading of the surface; however, if prehistoric cultural materials remain, they would be anticipated to include lithic and/or bone tools and tool fragments; lithic tools and debris; culturally modified trees; and fragments of fire-modified rock (FMR), either singly or in intact clusters (sometimes with charcoal and/or oxidized soils), indicating the presence of cooking or processing hearths.

The likelihood of finding historic-period archaeological remains is higher, given the history of the AIs as a location for the early development of the UW in conjunction with the AYPE. Facilities used in conjunction with the Nuclear Reactor building might be considered historically significant. Historic features and artifacts encountered would likely be associated with the late nineteenth- and early twentieth-century campus life and infrastructure. Artifacts and features may include personal items, brick, nails, glass and metal refuse, building foundations, and objects related to operation of machinery.

5. Summary and Recommendations

5.1 Archaeological Resources

The proximity to water and trails makes the AIs likely locations for prehistoric archaeological sites. The landform of both AIs is a Pleistocene age glacial deposit. If archaeological sites existed within the AIs, they would be at or near the surface. Examination of as-built drawings and facilities histories for these structures shows that both AIs have been subject to disturbance from the construction and use of UW buildings. Modern and historic period development has been not insignificant; however, some open space still exists.

The flat terrain of the Alternatives 1 and 2 AI increases the likelihood for prehistoric archaeological sites to be present. It is recommended that a small scale inventory be conducted in the Alternatives 1 and 2 AI, should that alternative be selected.

The terrain in the northern Alternative 3 AI is sloping and less conducive to settlement. No inventory is recommended for the Alternative 3 AI. However, if the project design is changed in ways that will change the area of ground disturbance, additional work may be needed.

5.2 Accidental Discovery of Archaeological Resources

In the event that archaeological deposits are inadvertently discovered during construction in any portion of the AIs, ground-disturbing activities should be halted immediately, and the UW should be notified. The UW would then contact DAHP and the interested Tribes, as appropriate.

5.3 Discovery of Human Remains

Any human remains that are discovered during construction of the Project will be treated with dignity and respect.

If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause further disturbance to those remains **must** cease, and the area of the find must be secured and protected from further disturbance. In addition, the finding of human skeletal remains **must** be reported to the county coroner **and** local law enforcement in the most expeditious manner possible. The remains should not be touched, moved, or further disturbed.

The county coroner will assume jurisdiction over the human skeletal remains, and make a determination of whether those remains are forensic or non-forensic. If the county coroner determines the remains are non-forensic, they will report that finding to DAHP. DAHP will then take jurisdiction over those remains and report them to the appropriate cemeteries and affected tribes. The State Physical Anthropologist will make a determination of whether the remains are Indian or non-Indian, and report that finding to any appropriate cemeteries and the affected tribes. DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

6. References Cited

Alaska-Yukon-Pacific Exposition (AYPE)
1909 Ground Plan of the Exposition. Available from MOHAI, collection no. 2006.3.8.

Ames, K. M., and H. D. G. Maschner
1999 *Peoples of the Northwest Coast, Their Archaeology and Prehistory*. Thames and Hudson Ltd., London, England.

Bagley, Clarence B.
1929 *History of King County*, Vols. 1 and 3. S.J. Clarke Publishing Company, Seattle, Washington.

Barnosky, Cathy W.
1984 Late Pleistocene and Early Holocene Environmental History of Southwestern Washington State, U.S.A. *Canadian Journal of Earth Science* 21:619–629.

Barnosky, Cathy W., Patricia M. Anderson, and Patrick J. Bartlein
1987 Chapter 14: The Northwestern U.S. During Deglaciation; Vegetational History and Paleoclimatic Implications. In *The Geology of North America, Volume K-3: North America and Adjacent Oceans During the Last Deglaciation,* edited by W. F. Ruddiman and Herbert E. Wright, Jr., pp. 289–321. Geological Society of America, Boulder, Colorado.

Blukis Onat, Astrida R.
2005 *Preliminary Ethnographic and Geoarchaeological Study of the SR520 Bridge Replacement and HOV Project.* Prepared for Sound Transit Central Puget Sound Regional Transit Authority, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

BOLA Architecture + Planning
2010 *Husky Union Building Historic Resources Addendum.* Prepared for the University of Washington, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Booth, Derek B., Kathy Goetz Troost, John J. Clague, and Richard B. Waitt
2004 The Cordilleran Ice Sheet. In *The Quaternary Period in the United States,* edited by A. R. Gillespie, S. C. Porter, and B. F. Atwater, pp. 17–43. Developments in Quaternary Science 1, series editor Jim Rose. Elsevier Science, New York.

Brubaker, Linda B.
1991 Climate Change and the Origin of Old-Growth Douglas-Fir Forests in the Puget Sound Lowland. In *Wildlife and Vegetation of Unmanaged Douglas-Fir Forests,* edited by Leonard F. Ruggiero, Keith B. Aubry, Andrew B. Carey, and Mark F. Huff, pp. 17–24. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-285.

Courtois & Associates
2003 *Preliminary Report on University of Washington Main Campus Seattle: Significant Buildings and Features Completed Prior to 1953 in Selected Campus Area.* Courtois & Associates, Seattle, Washington. Prepared for Sound Transit Central Puget Sound Regional Transit Authority,

Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Courtois, Shirley L., Kathryn H. Krafft, Catherine Wickwire, James C. Bard, and Robin McClintock

1998 *Link Central Light Rail Transit Project Seattle, Tukwila, and SeaTac, Washington: Final Technical Report, Historic and Archaeological Resources*. Courtois & Associates, Seattle, Washington, and CH2M Hill, Inc., Bellevue, Washington. Prepared for Central Puget Sound Regional Transit Authority, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

1999 *Link Central Light Rail Transit Project Seattle, Tukwila, and SeaTac, Washington: Final Technical Report, Historic and Archaeological Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites*. Courtois & Associates, Seattle, Washington, and CH2M Hill, Inc., Bellevue, Washington. Prepared for Central Puget Sound Regional Transit Authority, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Department of Archaeology and Historic Preservation (DAHP)

2009 45KI00892 Cemetery Detail Report. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2010a Archaeological Site Record 45KI952. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2010b Archaeological Site Record 45KI955. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Department of Natural Resources (DNR)

2015 Washington Interactive Geologic Map. Washington Geological Survey. Electronic document, https://fortress.wa.gov/dnr/geology/?Theme=wigm, accessed June 2015

Elder, J. T., S. Schneyder, M. Cascella, A. E. Stevenson, and K. Perkins.

2011a *Section 106 Technical Report (Volume I Archaeology and Volume II Built Environment) SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Program*. Prepared for WSDOT Seattle, WA. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2011b *Section 106 Technical Report, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project (Summary)*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2011c *Results of Archaeological Monitoring of Geotechnical Borings within the SR 520 Limits of Construction*. Prepared for WSDOT Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2013 *SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project Corridor Archaeological Landform Sensitivity Assessment*. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Emerson, Stephen

2009a *Letter to Adam Escalona RE: SE01126A UW Medical BB Tower, Archisto Enterprises Letter Report 2009-11*. Archisto Enterprises. Prepared for Adapt Engineering, Inc. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2009b *Letter to Adam Escalona RE: SE01123A Haggett Hall Archisto Enterprises Letter Report 2009-10.* Archisto Enterprises. Prepared for Adapt Engineering, Inc. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

2009c *Letter to Adam Escalona RE: SE01124A Suzzallo Library Archisto Enterprises Letter Report 2009-09.* Archisto Enterprises. Prepared for Adapt Engineering, Inc. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Franklin, Jerry F., and C.T. Dyrness

1973 *Natural Vegetation of Oregon and Washington.* USDA Forest Service, General Technical Report PNW-8.

Gilpin, Jennifer

2011 State of Washington Archaeological Site Inventory Form 45KI1030. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Gilpin, Jennifer, and Dawn Vogel

2011 *An Archaeological Assessment for the wəɬəbʔaltxʷ, or Intellectual House Project, University of Washington, Seattle, King County, Washington*. Historical Research Associates, Inc., Seattle, Washington. Submitted to University of Washington, Seattle.

Gray, Connie Walker

2011 *Section 106 Technical Report: Volume 2 Built Environment, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*. Prepared for WSDOT Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Hilbert, Vi, Jay Miller, and Zalmai Zahir

2001 *Puget Sound Geography: Original Manuscript from T.T. Waterman*. Edited with additional material from Vi Hilbert, Jay Miller, and Zalmai Zahir. Lushootseed Press, Seattle, Washington.

Johnson, Paula

2010 *Interim Report on Archaeological Monitoring for the Central Link Light Rail Transit Project, University Link Contract U210: Utility Relocation -University of Washington*. Prepared for Sound Transit, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Lockwood, Chris

2014 State of Washington Archaeological Site Inventory Form 45KI1201. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Louderback, L., and S. Jolivette

2009 45KI957 State of Washington Archaeological Site Inventory Form. Burke Museum, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Martin, Abby T.

2008 National Register Nomination for Site 45KI827 Nuclear Reactor Building at University of Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Rooke, Lara C.
2002 Letter to Jay Grenfell, Vertex Engineering Services, Inc. RE: WA-539 (Cavalier Apartments). Cascadia Archaeology, Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Ruby, R. H., and J. A. Brown
1992 *A Guide to the Indian Tribes of the Pacific Northwest*. Revised Edition. University of Oklahoma Press, Norman and London.

Schneyder, T.
2011 *Section 106 Technical Report: Volume 1 Archaeology, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*. Prepared for WSDOT Seattle, Washington. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Sharley, Ann, and Ross Smith
2011 *Cultural Resource Assessment for the Thomas Burke Memorial Washington State Museum Renovation Project, University of Washington, King County, Washington*. Northwest Archaeological Associates, Inc., Seattle, Washington. Prepared for University of Washington Capital Projects Office and Olson Kundig Architects, Seattle. On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Stevens, Isaac I.
1854 Report on Tribes between the Head of Navigation of the Mississippi River to the Pacific Ocean: Indian Tribes West of the Cascades. Letter from Isaac I. Stevens, Governor and Superintendent of Indian Affairs, Washington Territory to George W. Maypenny, Commissioner of Indian Affairs, Washington D. C., 16 September. In *Message from the President of the United States to the Two Houses of Congress, Part 1*, pp. 392–459. A.O.P. Nicholson Printer, Washington, D.C.

Stevenson, Alexander, and Jenny Dellert
2013 *University of Washington Burke-Gilman Trail, Rainier Vista to 15th Avenue NE Segment, Cultural Resources Inventory Project, Seattle*. Historical Research Associates, Inc., Seattle, Washington. Submitted to EA Engineering Science and Technology, Inc. Seattle, Washington.

Stevenson, Alexander, and Kainoa Little
2014 *Archaeological Inventory for the University of Washington Burke-Gilman Trail, Brooklyn Avenue NE to 15th Avenue NE (Garden Reach) Segment, City of Seattle*. Historical Research Associates, Inc., Seattle, Washington. Submitted to EA Engineering Science and Technology, Inc. Seattle, Washington.

Stevenson, Alexander, Kainoa Little, and Sonja Mochany
2014 *Cultural Resources Inventory for the University of Washington Burke-Gilman Trail, Rainier Vista to Northeast 47th Street (Forest Reach) Segment, City of Seattle*. Historical Research Associates, Inc., Seattle, Washington. Submitted to EA Engineering Science and Technology, Inc. Seattle, Washington.

Suttles, W.
1990 Environment. In *Northwest Coast,* edited by Wayne Suttles, pp. 16–29. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

United States Court of Claims

1927 Number of Duwamish Villages on Duwamish River and Lake Washington. In the Court of Claims of the United States, the Duwamish et al. Tribe of Indians v. the United States of America, Claimants Exhibit w-2, filed October 2, 1927. Records Group 123. Records of the U.S. Court of Claims No. F.-275. On file at the National Archives and Records Administration, Washington, D.C.

United States Surveyor General (USSG)

1865 General Land Office Map, Township 25 North, Range 4 East, Willamette Meridian. On file at the Washington State Department of Natural Resources, Olympia.

University of Washington Facilities Records

2015a More Hall Annex documents. Campus Engineering – Records/Document Search. Electronic document, http://www.washington.edu/facilities/records/services.php, accessed May 2015.

2015b Plant Ops Annex 1documents. Campus Engineering – Records/Document Search. Electronic document, http://www.washington.edu/facilities/records/services.php, accessed May 2015.

Whitlock, Cathy

1992 Vegetational and Climatic History of the Pacific Northwest during the last 20,000 Years: Implications for Understanding Present-Day Biodiversity. *The Northwest Environmental Journal* 8:5–28.

Wilson, Katie, Alicia Valentino, and Chris Lockwood

2014 *SR 520 I-5 to Medina – Union Bay Natural Area Cultural Resources Review.* On file at the Department of Archaeology and Historic Preservation, Olympia, Washington.

Appendix A. Cultural Resource Studies Within 0.5 Miles of the Areas of Impact (AI)

Table A-1. Previous Cultural Resources Studies within 0.5 mi of the AIs.

National Archaeological Database (NADB#)	Reference	Title	Distance from AI	Archaeological Resources Identified within 0.5 miles of AI
1685861	Blukis Onat 2005	*Preliminary Ethnographic and Geoarchaeological Study of the SR520 Bridge Replacement and HOV Project*	~0.3 mi south	No archaeological resources
1685861	Johnson 2010	*Interim Report on Archaeological Monitoring for the Central Link Light RailTransit Project, University Link Contract U210: Utility Relocation - University of Washington*	~0.1 mi southeast	45-KI-952, 45-KI-955
6680657	Elder et al. 2011a	*Section 106 Technical Report (Volume I Archaeology and Volume II Built Environment) SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Program*	~0.2 mi south	No archaeological resources
1681089	Elder et al. 2011b	*Section 106 Technical Report, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project (Summary)*	~0.2 mi south	No archaeological resources
16682029	Elder et al. 2011c	*Results of Archaeological Monitoring of Geotechnical Borings within the SR 520 Limits of Construction*	~0.2 mi south	No archaeological resources
1683661	Elder et al. 2013	*SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project Corridor Archaeological Landform Sensitivity Assessment*	~0.1 mi south	No archaeological resources
1681090	Schneyder 2011	*Section 106 Technical Report: Volume 1 Archaeology, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*	~0.2 mi south	No archaeological resources
1681091	Gray 2011	*Section 106 Technical Report: Volume 2 Built Environment, SR 520 Bridge Replacement and HOV Program, I-5 to Medina: Bridge Replacement and HOV Project*	~0.2 mi south	No archaeological resources

Table A-1. Previous Cultural Resources Studies within 0.5 mi of the AIs.

National Archaeological Database (NADB#)	Reference	Title	Distance from AI	Archaeological Resources Identified within 0.5 miles of AI
1339816	Courtois et al. 1998	*Link Central Light Rail Transit Project Seattle, Tukwila, and SeaTac, Washington: Final Technical Report, Historic and Archaeological Resources*	~0.3 mi west	No archaeological resources
1339836	Courtois et al. 1999	*Link Central Light Rail Transit Project Seattle, Tukwila, and SeaTac, Washington: Final Technical Report, Historic and Archaeological Sites, Historic Resources, Native American Traditional Cultural Properties, Paleontological Sites*	~0.3 mi west	No archaeological resources
1350148	Courtois & Associates 2003	*Preliminary Report on University of Washington Main Campus Seattle: Significant Buildings and Features Completed Prior to 1953 in Selected Campus Area*	Adjacent	No archaeological resources; addresses Lewis Hall and Clark Hall (listed on WHR)
1686018	Wilson et al. 2014	*SR 520 to Medina - Union Bay Natural Area Cultural Resources Review*	~0.2 mi to the southeast	UW Landfill (45KI1201)
1352771	Emerson 2009a	*Letter to Adam Escalona RE: SE01126A UW Medical BB Tower, Archisto Enterprises Letter Report 2009-11*	~0.5 mi south	No archaeological resources
1352793	Emerson 2009b	*Letter to Adam Escalona RE: SE01123A Haggett Hall Archisto Enterprises Letter Report 2009-10*	Adjacent to northeast	No archaeological resources
1352800	Emerson 2009c	*Letter to Adam Escalona RE: SE01124A Suzzallo Library Archisto Enterprises Letter Report 2009-09*	~0.2 mi southwest	No archaeological resources
1341144	Rooke 2002	*Letter to Jay Grenfell, Vertex Engineering Services, Inc. RE: WA-539 (Cavalier Apartments). Cascadia Archaeology, Seattle*	~0.5 mi southwest	No archaeological resources
1353812	BOLA 2010	*Husky Union Building Historic Resources Addendum*	~0.15 mi south	No archaeological resources
1681083	Gilpin and Vogel 2011	*Archaeological Assessment for the weleb?altx, or Intellectual House Project, University of Washington*	Adjacent to the AI on the southeast	Archaeological site 45KI1030, cobble stone staircase

Table A-1. Previous Cultural Resources Studies within 0.5 mi of the AIs.

National Archaeological Database (NADB#)	**Reference**	**Title**	**Distance from AI**	**Archaeological Resources Identified within 0.5 miles of AI**
1680533	Sharley and Smith 2011	*Cultural Resource Assessment for the Thomas Burke Memorial Washington State Museum Renovation Project, University of Washington, King County, Washington*	~0.2 mi west	No archaeological resources
1684507	Stevenson and Dellert 2013	*University of Washington Burke-Gilman Trail, Rainier Vista to 15th Avenue NE Segment, Cultural Resources Inventory Project, Seattle*	~0.1 mi southwest	No archaeological resources
1685157	Stevenson and Little 2014	*Archaeological Inventory for the University of Washington Burke-Gilman Trail, Brooklyn Avenue NE to 15th Avenue NE (Garden Reach) Segment, City of Seattle*	~0.2 mi west	No archaeological resources

APPENDIX C

GHG Emissions Worksheet

City of Seattle Department of Planning and Development
SEPA GHG Emissions Worksheet
Version 1.7 12/26/07

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of GHG emissions, the City of Seattle requires the applicant to also estimate these emissions.

Emissions created by Development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG Emissions Worksheet

This GHG Emissions Worksheet has been developed to assist applicants in answering the SEPA Checklist question relating to GHG emissions. The worksheet was originally developed by King County, but the City of Seattle and King County are working together on future updates to maintain consistency of methodologies across jurisdictions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than on type of commercial activity, the appropriate information should be estimated for each type of building or activity.

2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.

3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.

4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.

5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.

6. Print out the “Total Emissions” worksheet and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

University of Washington CSE II Project

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e) Embodied	Energy	Transportation	**Lifespan Emissions (MTCO2e)**
Single-Family Home............................	0		98	672	792	**0**
Multi-Family Unit in Large Building	0		33	357	766	**0**
Multi-Family Unit in Small Building	0		54	681	766	**0**
Mobile Home.......................................	0		41	475	709	**0**
Education		133.7	39	646	361	**139791**
Food Sales		0.0	39	1,541	282	**0**
Food Service		0.0	39	1,994	561	**0**
Health Care Inpatient		0.0	39	1,938	582	**0**
Health Care Outpatient		0.0	39	737	571	**0**
Lodging		0.0	39	777	117	**0**
Retail (Other Than Mall)........................		0.0	39	577	247	**0**
Office		0.0	39	723	588	**0**
Public Assembly		0.0	39	733	150	**0**
Public Order and Safety		0.0	39	899	374	**0**
Religious Worship		0.0	39	339	129	**0**
Service		0.0	39	599	266	**0**
Warehouse and Storage		0.0	39	352	181	**0**
Other		0.0	39	1,278	257	**0**
Vacant		0.0	39	162	47	**0**

Section II: Pavement..........................

Pavement...		0.00				**0**

Total Project Emissions: **139791**

Version 1.7 12/26/07

Definition of Building Types

Type (Residential) or Principal Activity (Commercial)	**Description**
Single-Family Home..................................	Unless otherwise specified, this includes both attached and detached buildings
Multi-Family Unit in Large Building	Apartments in buildings with more than 5 units
Multi-Family Unit in Small Building	Apartments in building with 2-4 units
Mobile Home..	
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of "Office," dormitories are "Lodging," and libraries are "Public Assembly."
Food Sales	Buildings used for retail or wholesale of food.
Food Service	Buildings used for preparation and sale of food and beverages for consumption.
Health Care Inpatient	Buildings used as diagnostic and treatment facilities for inpatient care.
Health Care Outpatient	Buildings used as diagnostic and treatment facilities for outpatient care. Doctor's or dentist's office are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.
Retail (Other Than Mall)...........................	Buildings used for the sale and display of goods other than food.
Office	Buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
Public Order and Safety	Buildings used for the preservation of law and order or public safety.
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.

Sources: ....

Residential 2001 Residential Energy Consumption Survey
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Commercial Commercial Buildings Energy Consumption Survey (CBECS),
Description of CBECS Building Types
http://www.eia.doe.gov/emeu/cbecs/pba99/bldgtypes.html

Embodied Emissions Worksheet

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# thousand sq feet/ unit or building	Life span related embodied GHG missions (MTCO2e/ unit)	Life span related embodied GHG missions (MTCO2e/ thousand square feet) - See calculations in table below
Single-Family Home................................	2.53	98	39
Multi-Family Unit in Large Building	0.85	33	39
Multi-Family Unit in Small Building	1.39	54	39
Mobile Home...	1.06	41	39
Education	25.6	991	39
Food Sales	5.6	217	39
Food Service	5.6	217	39
Health Care Inpatient	241.4	9,346	39
Health Care Outpatient	10.4	403	39
Lodging	35.8	1,386	39
Retail (Other Than Mall).........................	9.7	376	39
Office	14.8	573	39
Public Assembly	14.2	550	39
Public Order and Safety	15.5	600	39
Religious Worship	10.1	391	39
Service	6.5	252	39
Warehouse and Storage	16.9	654	39
Other	21.9	848	39
Vacant	14.1	546	39

Section II: Pavement............................

All Types of Pavement...........................			50

	Columns and Beams	Intermediate Floors	Exterior Walls	Windows	Interior Walls	Roofs	Total Embodied Emissions (MTCO2e)	Total Embodied Emissions (MTCO2e/ thousand sq feet)
Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building	5.3	7.8	19.1	51.2	5.7	21.3		
Average Materials in a 2,272-square foot single family home	0.0	2269.0	3206.0	285.0	6050.0	3103.0		
MTCO2e	0.0	8.0	27.8	6.6	15.6	30.0	88.0	38.7

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Residential floorspace per unit — 2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Floorspace per building — EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building — Athena EcoCalculator
Athena Assembly Evaluation Tool v2.3- Vancouver Low Rise Building
Assembly Average GWP (kg) per square meter
http://www.athenasmi.ca/tools/ecoCalculator/index.html

Lbs per kg	2.20
Square feet per square meter	10.76

Average Materials in a 2,272-square foot single family home — Buildings Energy Data Book: 7.3 Typical/Average Household
Materials Used in the Construction of a 2,272-Square-Foot Single-Family Home, 2000
http://buildingsdatabook.eren.doe.gov/?id=view_book_table&TableID=2036&t=xls
See also: NAHB, 2004 Housing Facts, Figures and Trends, Feb. 2004, p. 7.

Average window size — Energy Information Administration/Housing Characteristics 1993
Appendix B, Quality of the Data. Pg. 5.
ftp://ftp.eia.doe.gov/pub/consumption/residential/rx93hcf.pdf

Pavement Emissions Factors
MTCO2e/thousand square feet of asphalt or concrete pavement 50 (see below)

Embodied GHG Emissions……………………Worksheet Background Information

Buildings
Embodied GHG emissions are emissions that are created through the extraction, processing, transportation, construction and disposal of building materials as well as emissions created through landscape disturbance (by both soil disturbance and changes in above ground biomass).

Estimating embodied GHG emissions is new field of analysis; the estimates are rapidly improving and becoming more inclusive of all elements of construction and development.

The estimate included in this worksheet is calculated using average values for the main construction materials that are used to create a typical family home. In 2004, the National Association of Home Builders calculated the average materials that are used in a typical 2,272 square foot single-family household. The quantity of materials used is then multiplied by the average GHG emissions associated with the life-cycle GHG emissions for each material.

This estimate is a rough and conservative estimate; the actual embodied emissions for a project are likely to be higher. For example, at this stage, due to a lack of comprehensive data, the estimate does not include important factors such as landscape disturbance or the emissions associated with the interior components of a building (such as furniture).

King County realizes that the calculations for embodied emissions in this worksheet are rough. For example, the emissions associated with building 1,000 square feet of a residential building will not be the same as 1,000 square feet of a commercial building. However, discussions with the construction community indicate that while there are significant differences between the different types of structures, this method of estimation is reasonable; it will be improved as more data become available.

Additionally, if more specific information about the project is known, King County recommends two online embodied emissions calculators that can be used to obtain a more tailored estimate for embodied emissions: www.buildcarbonneutral.org and www.athenasmi.ca/tools/ecoCalculator/.

Pavement
Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle. For specifics, see the worksheet.

Special Section: Estimating the Embodied Emissions for Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle.

The results of the studies are presented in different units and measures; considerable effort was undertaken to be able to compare the results of the studies in a reasonable way. For more details about the below methodology, contact matt.kuharic@kingcounty.gov.

The four studies, Meil (2001), Park (2003), Stripple (2001) and Treolar (2001) produced total GHG emissions of 4-34 MTCO2e per thousand square feet of finished paving (for similar asphalt and concrete based pavements). This estimate does not including downstream maintenance and repair of the highway. The average (for all concrete and asphalt pavements in the studies, assuming each study gets one data point) is ~17 MTCO2e/thousand square feet.

Three of the studies attempted to thoroughly account for the emissions associated with long term maintenance (40 years) of the roads. Stripple (2001), Park et al. (2003) and Treolar (2001) report 17, 81, and 68 MTCO2e/thousand square feet, respectively, after accounting for maintenance of the roads.

Based on the above discussion, King County makes the conservative estimate that 50 MTCO2e/thousand square feet of pavement (over the development's life cycle) will be used as the embodied emission factor for pavement until better estimates can be obtained. This is roughly equivalent to 3,500 MTCO2e per lane mile of road (assuming the lane is 13 feet wide).

It is important to note that these studies estimate the embodied emissions for roads. Paving that does not need to stand up to the rigors of heavy use (such as parking lots or driveways) would likely use less materials and hence have lower embodied emissions.

Sources:
Meil, J. A Life Cycle Perspective on Concrete and Asphalt Roadways: Embodied Primary Energy and Global Warming Potential. 2006. Available: http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b90061b914/$FILE/ATTK0WE3/athena%20report%20Feb.%202%202007.pdf

Park, K, Hwang, Y., Seo, S., M.ASCE, and Seo, H. , "Quantitative Assessment of Environmental Impacts on Life Cycle of Highways," Journal of Construction Engineering and Management , Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

Stripple, H. Life Cycle Assessment of Road. A Pilot Study for Inventory Analysis. Second Revised Edition. IVL Swedish Environmental Research Institute Ltd. 2001. Available: http://www.ivl.se/rapporter/pdf/B1210E.pdf

Treloar, G., Love, P.E.D., and Crawford, R.H. Hybrid Life-Cycle Inventory for Road Construction and Use. Journal of Construction Engineering and Management. P. 43-49. January/February 2004.

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorspace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home.............................	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	357	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home...	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall).......................	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings
2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)
Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions
http://buildingsdatabook.eren.doe.gov/
Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and Floorspace per building
EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings
Buildings Energy Data Book (National average, 2005)
Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCE per Quadrillion Btu)
http://buildingsdatabook.eere.energy.gov/?id=view_book_table&TableID=2057
Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.
To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.

Residential floorspace per unit
2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

average lief span of buildings, estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings	
New Housing Construction, 2001	1,273,000	329,000	1,602,000	
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000	
Replacement time:	57.9	80.5	62.5	(national average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.
Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.
Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction, 2001 **Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)**
http://www.census.gov/const/quarterly_starts_completions_cust.xls
See also: http://www.census.gov/const/www/newresconstindex.html

Existing Housing Stock, 2001 **Residential Energy Consumption Survey (RECS) 2001**
Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001
Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
Million U.S. Households, 2001
http://www.eia.doe.gov/emeu/recs/recs2001/hc_pdf/housunits/hc1-4a_housingunits2001.pdf

Transportation Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	# people/ unit or building	# thousand sq feet/ unit or building	# people or employees/ thousand square feet	vehicle related GHG emissions (metric tonnes CO2e per person per year)	MTCO2e/ year/ unit	MTCO2e/ year/ thousand square feet	Average Building Life Span	Life span transportation related GHG emissions (MTCO2e/ per unit)	Life span transportation related GHG emissions (MTCO2e/ thousand sq feet)
Single-Family Home................................	2.8	2.53	1.1	4.9	13.7	5.4	57.9	792	313
Multi-Family Unit in Large Building	1.9	0.85	2.3	4.9	9.5	11.2	80.5	766	904
Multi-Family Unit in Small Building	1.9	1.39	1.4	4.9	9.5	6.8	80.5	766	550
Mobile Home...	2.5	1.06	2.3	4.9	12.2	11.5	57.9	709	668
Education	30.0	25.6	1.2	4.9	147.8	5.8	62.5	9247	361
Food Sales	5.1	5.6	0.9	4.9	25.2	4.5	62.5	1579	282
Food Service	10.2	5.6	1.8	4.9	50.2	9.0	62.5	3141	561
Health Care Inpatient	455.5	241.4	1.9	4.9	2246.4	9.3	62.5	140506	582
Health Care Outpatient	19.3	10.4	1.9	4.9	95.0	9.1	62.5	5941	571
Lodging	13.6	35.8	0.4	4.9	67.1	1.9	62.5	4194	117
Retail (Other Than Mall)...........................	7.8	9.7	0.8	4.9	38.3	3.9	62.5	2394	247
Office	28.2	14.8	1.9	4.9	139.0	9.4	62.5	8696	588
Public Assembly	6.9	14.2	0.5	4.9	34.2	2.4	62.5	2137	150
Public Order and Safety	18.8	15.5	1.2	4.9	92.7	6.0	62.5	5796	374
Religious Worship	4.2	10.1	0.4	4.9	20.8	2.1	62.5	1298	129
Service	5.6	6.5	0.9	4.9	27.6	4.3	62.5	1729	266
Warehouse and Storage	9.9	16.9	0.6	4.9	49.0	2.9	62.5	3067	181
Other	18.3	21.9	0.8	4.9	90.0	4.1	62.5	5630	257
Vacant	2.1	14.1	0.2	4.9	10.5	0.7	62.5	657	47

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

people/ unit — Estimating Household Size for Use in Population Estimates (WA state, 2000 average)
Washington State Office of Financial Management
Kimpel, T. and Lowe, T. Research Brief No. 47. August 2007
http://www.ofm.wa.gov/researchbriefs/brief047.pdf
Note: This analysis combines Multi Unit Structures in both large and small units into one category;
the average is used in this case although there is likely a difference

Residential floorspace per unit — 2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

employees/thousand square feet — Commercial Buildings Energy Consumption Survey commercial energy uses and costs (National Median, 2003)
Table B2 Totals and Medians of Floorspace, Number of Workers, and Hours of Operation for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set1/2003excel/b2.xls

Note: Data for # employees/thousand square feet is presented by CBECS as square feet/employee.
In this analysis employees/thousand square feet is calculated by taking the inverse of the CBECS number and multiplying by 1000.

vehicle related GHG emissions

Estimate calculated as follows (Washington state, 2006)_

56,531,930,000	2006 Annual WA State Vehicle Miles Traveled	
		Data was daily VMT. Annual VMT was 365*daily VMT.
		http://www.wsdot.wa.gov/mapsdata/tdo/annualmileage.htm
6,395,798	2006 WA state population	
		http://quickfacts.census.gov/qfd/states/53000.html
8839	vehicle miles per person per year	
0.0506	gallon gasoline/mile	
		This is the weighted national average fuel efficiency for all cars and 2 axle, 4 wheel light trucks in 2005. This includes pickup trucks, vans and SUVs. The 0.051 gallons/mile used here is the inverse of the more commonly known term “miles/per gallon” (which is 19.75 for these cars and light trucks).
		Transportation Energy Data Book. 26th Edition. 2006. Chapter 4: Light Vehicles and Characteristics. Calculations based on weighted average MPG efficiency of cars and light trucks.
		http://cta.ornl.gov/data/tedb26/Edition26_Chapter04.pdf
		Note: This report states that in 2005, 92.3% of all highway VMT were driven by the above described vehicles.
		http://cta.ornl.gov/data/tedb26/Spreadsheets/Table3_04.xls
24.3	lbs CO2e/gallon gasoline	
		The CO2 emissions estimates for gasoline and diesel include the extraction, transport, and refinement of petroleum as well as their combustion.
		Life-Cycle CO2 Emissions for Various New Vehicles. RENew Northfield.
		Available: http://renewnorthfield.org/wpcontent/uploads/2006/04/CO2%20emissions.pdf
		Note: This is a conservative estimate of emissions by fuel consumption because diesel fuel,
2205		with a emissions factor of 26.55 lbs CO2e/gallon was not estimated.
4.93	lbs/metric tonne	
	vehicle related GHG emissions (metric tonnes CO2e per person per year)	
average lief span of buildings, estimated by replacement time method	See Energy Emissions Worksheet for Calculations	
Commercial floorspace per unit	EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)	
	Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003	
	http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls	

APPENDIX D

US NRC Termination of Facility Operating License and Release for Unrestricted Use Letter

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 29, 2007

Dr. Mani Soma, Acting Dean
College of Engineering
University of Washington
Box 352180
Seattle, WA 98195-2180

SUBJECT: TERMINATION OF FACILITY OPERATING LICENSE NO. R-73 FOR THE UNIVERSITY OF WASHINGTON RESEARCH REACTOR (TAC NO. J00268)

Dear Dr. Soma:

The U.S. Nuclear Regulatory Commission (NRC) has reviewed University of Washington's (UWA's) request dated December 13, 2006, to terminate Facility Operating License No. R-73 for the UWA Research Reactor (UWAR). Pursuant to 10 CFR 50.82(b)(6), the NRC staff has concluded that the terminal radiation survey and associated documentation demonstrate that the decommissioning is completed and the facility and site meet the criteria for license termination in accordance with the May 1, 1995, NRC-approved UWAR decommissioning plan.

On May 21, 2007, NRC issued inspection report 50-139/2006-204 for the UWAR. The inspector interviewed licensee staff, observed work in progress, reviewed selected procedures and records, and survey activities. The inspection included the in-process inspection of final status survey activities and side-by-side field measurements. The inspection also included a review of the UWAR Final Status Survey Report (FSSR) dated December 13, 2006, as supplemented on February 26 and March 12, 2007. The FSSR documented the level of radioactivity remaining at the facility. As a result of the inspection and FSSR review, the inspector determined that the decommissioning activities, including the final status survey, were conducted in accordance with the UWAR decommissioning plan. The NRC staff also determined that the facility met the criteria in 10 CFR 20.1402 for unrestricted use.

Therefore, on the basis of decommissioning activities carried out by UWA, the NRC's review of the FSSR, the results of NRC inspections conducted at the UWA, and the results of NRC confirmatory surveys, the NRC concludes that decommissioning is completed and the facility and site are suitable to be released for unrestricted use. Facility Operating License No. R-73 is hereby terminated.

In connection with the license termination, we are enclosing two copies of Amendment No. 12 to Indemnity Agreement No. E-29. Please sign and return one copy to this office.

Also enclosed is a copy of the Notice of License Termination, which is being sent to the Office of the Federal Register for publication.

In accordance with 10 CFR 2.390 of the NRC's "Rules of General Applicability," a copy of this letter and the referenced correspondence will be available electronically in the NRC Public Document Room or from the Publically Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning this matter, please contact Chad Glenn at (301) 415-6722.

Sincerely,

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Programs

Docket No.: 50-139

Enclosures:
1. Amendment No. 12 to
   Indemnity Agreement No. E-29
2. *Federal Register* Notice

cc: see next page

cc:

University of Washington

Dr. M. Carette, Assistant to the Dean
College of Engineering
University of Washington
Box 352180
Seattle, WA 98195-2180

Stanley Addison, Radiation Safety Officer
Environmental Health and Safety
University of Washington
Hall Health Center
Box 354400
Seattle, WA 98195-4400

Marty Howlett, Project Manager
Capital Projects Office
University of Washington
University Facilities Annex 2
Box 352205
Seattle, WA 98195-2205

Test, Research, and Training Reactor
Newsletter
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Docket No. 50-139

AMENDMENT TO INDEMNITY AGREEMENT NO. E-29

AMENDMENT NO. 12

Effective _______________, 2007, Indemnity Agreement No. E-29, between University of Washington, and the Atomic Energy Commission, dated December 6, 1962, as amended, is hereby terminated.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

Robert D. Carlson, Chief
Financial, Policy, and Rulemaking Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

_____________________, 2007
Accepted

____
By: University of Washington

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Docket No. 50-139

AMENDMENT TO INDEMNITY AGREEMENT NO. E-29

AMENDMENT NO. 12

Effective _______________, 2007, Indemnity Agreement No. E-29, between University of Washington, and the Atomic Energy Commission, dated December 6, 1962, as amended, is hereby terminated.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

Robert D. Carlson, Chief
Financial, Policy, and Rulemaking Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

_____________________, 2007
Accepted

____
By: University of Washington

UNITED STATES NUCLEAR REGULATORY COMMISSION

NOTICE OF LICENSE TERMINATION

FOR

UNIVERSITY OF WASHINGTON RESEARCH REACTOR (UWAR)

DOCKET NO. 50-139

The U.S. Nuclear Regulatory Commission (NRC) is announcing the termination of facility Operating License No. R-73 for the University of Washington Research Reactor (UWAR).

The NRC has terminated the license of the decommissioned UWAR, at the University of Washington (UWA) in Seattle, Washington, and has released the site for unrestricted use. The UWAR was a Argonaut-type training and research reactor with an initial power output of 10 kilowatts, which later received authority to increase power output to 100 kilowatts. The reactor was permanently shut down on June 30, 1988. By application dated August 2, 1994, the licensee requested authorization to dismantle the UWAR and to dispose of the component parts, in accordance with the decommissioning plan submitted as part of the application. Opportunity for a hearing was afforded by "Notice of Proposed Issuance of Orders Authorizing Disposition of Component Parts and Terminating Facility License" published in the Federal Register on September 2, 1994 (59 FR 45738). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action. The NRC reviewed the application with respect to the Commission's rules and regulations and found that the dismantling and disposal of component parts as stated in the licensee's decommissioning plan are consistent with the regulations in 10 CFR Chapter I and are not inimical to the common defense and security or to the health and safety of the public. On May 1, 1995, the Commission issued the "Order Authorizing Dismantling of Facility and Disposition of Component Parts."

The licensee conducted remediation activities and completed final status surveys in October 2006. The licensee's request for termination of the license was supported by the submittal of a Final Status Survey Report (FSSR). The NRC completed its review of the UWAR FSSR submitted to NRC by letter dated December 13, 2006, as supplemented February 26 and March 12, 2007. The FSSR documented the level of residual radioactivity remaining at the facility and stated that compliance with the criteria in the NRC-approved decommissioning plan for the reactor has been demonstrated. The NRC staff verified that the criteria in the approved decommissioning plan had been met and determined that the facility and site met the criteria in 10 CFR 20.1402 for unrestricted use.

Pursuant to 10 CFR 50.82(b)(6), the NRC staff has concluded that the reactor has been decommissioned in accordance with the approved decommissioning plan and that the terminal radiation survey and associated documentation demonstrate that the facility and site may be released in accordance with the criteria in the NRC-approved decommissioning plan. Further, on the basis of the decommissioning activities carried out by UWA, the NRC's review of the licensee's FSSR, the results of NRC inspections conducted at the UWAR, and the results of NRC confirmatory surveys, the NRC has concluded that the decommissioning process is complete and the facility and site may be released for unrestricted use. Therefore Facility Operating License No. R-73 is terminated.

For further details with respect to the proposed action, see the licensee's letter dated December 13, 2006, as supplemented February 26 and March 12, 2007; and NRC Inspection Report No. 50-139/2006-204, dated May 21, 2007. The above referenced documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR) at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, http://www.nrc.gov/reading-rm/adams.html. Persons who do not have access to ADAMS or who have problems in accessing the documents in ADAMS should call the NRC PDR reference staff at 1-800-397-4209 or 301-415-4737 or e-mail pdr@nrc.gov.

Dated at Rockville, Maryland, this 29th day of August 2007.

FOR THE NUCLEAR REGULATORY COMMISSION

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Programs