UNIVERSITY of WASHINGTON
Capital Projects Office

November 5, 2014

To All Interested Agencies and Individuals:

Enclosed is a copy of the Final Environmental Impact Statement (FEIS) for the proposed Animal Research and Care Facility Project. This document was prepared in compliance with the requirements of the State Environmental Policy Act (SEPA) to provide information about the potential impacts resulting from the project.

The Final Environmental Impact Statement responds to comments submitted on the Draft Environmental Impact. The project involves construction of a below grade two story structure totaling approximately 90,000 square foot (approximately 43,000 square feet on each level, plus an additional 4,000 square feet for the expanding loading dock area). Minor above-grade development would total approximately 5,700 square feet outside of the Portage Bay Vista boundaries and would consist of an approximately 66-foot high, 4,200 –square foot utility/exhaust tower for air intake and exhaust in the northeast corner of the proposed building (adjacent to Hitchcock Hall), as well as an approximately 1,500-square foot above grade entrance pavilion to provide access to the ARCF via the below-grade access corridor. Once construction of the building is complete, the Portage Bay Vista would be replaced and landscaped. The existing view corridor created by the Portage Bay Vista would remain as part of this project.

You have received this document because you are (1) on the UW SEPA mailing list, (2) have an interest in the project, (3) submitted a comment on the Draft Environmental Impact Statement and /or (4) are in close proximity to the project.

Sincerely,

Richard K. Chapman
Associate Vice President for Capital Projects

RKC/JA/cs
Enclosures

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UNIVERSITY OF WASHINGTON ANIMAL RESEARCH AND CARE FACILITY

Final Environmental Impact Statement

UNIVERSITY OF WASHINGTON

November 2014

FINAL

ENVIRONMENTAL IMPACT STATEMENT

for the

UNIVERSITY of WASHINGTON

Animal Research and Care Facility Project

University of Washington

Capital Projects Office

The Final EIS (FEIS) for the University of Washington *Animal Research and Care Facility Project* has 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 FEIS 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 FEIS. 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 further decisions on the proposal.

Date of Draft EIS Issuance .....**July 29, 2014**

Date of Final EIS Issuance ..... **November 5, 2014**

FACT SHEET

PROJECT TITLE	**University of Washington Animal Research and Care Facility Project**
PROPONENT/APPLICANT	University of Washington
LOCATION	The site of the proposed Animal Research and Care Facility (ARCF) is located on the University of Washington Seattle campus, in the Southwest Campus area and includes the Portage Bay Vista. The site is bounded by NE Pacific Street on the north, NE Boat Street on the south, William H. Foege Hall on the west and Hitchcock Hall on the east.
EIS ALTERNATIVES	Two development alternatives are analyzed in the EIS, including Alternative 1 – Proposed Action and Alternative 2 – Alternate Site, as well as the No Action Alternative (Alternative 3).

Alternative 1 – Proposed Action

Alternative 1 (Proposed Action) would involve development of the proposed ARCF within a below-grade structure on a site that includes the Portage Bay Vista. The ARCF building would include approximately 95,700 square feet of building development to replace currently non-compliant facilities (e.g., with functional and space deficiencies) and provide centralized holding and procedure space for the Department of Comparative Medicine (DCM) and the Washington National Primate Research Center (WaNPRC). Two below-grade building levels would be provided on the site and would comprise approximately 90,000 square feet; below-grade development would also include an expanded loading dock that would contain an access corridor to link the ARCF with adjacent buildings. Above-grade features of the project would include an approximately 66-foot high, 4,200-square foot utility/exhaust tower for air intake and exhaust in the northeast corner of the proposed building, and an approximately 1,500

square foot structure to provide elevator and stairway access located in the southeast corner of the building. All above-grade building features would be located outside of the Portage Bay Vista. Once building construction is complete, the Portage Bay Vista would be retained and include improved access and landscaping. The existing view corridor created by the Portage Bay Vista would remain as part of the project.

Alternative 2 – Alternate Site

Under Alternative 2, the ARCF would be constructed as an above-ground structure on Development Site 45S (located south of the Portage Bay Parking Facility between Brooklyn Avenue NE and 15th Avenue NE). The two-level building would contain approximately 90,000 square feet of building space and would be approximately 30 to 40 feet tall. Loading and service areas would be located above-grade at the northwest corner of the building.

Alternative 3 - No Action Alternative

Under the No Action Alternative, the ARCF would not be constructed and the alternative sites would remain in their existing conditions. The DCM and WaNPRC animal research facilities would remain in their existing condition and locations, and would continue to experience functional and space deficiencies.

LEAD AGENCY

University of Washington, Capital Projects Office

RESPONSIBLE OFFICIAL

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PURPOSE OF THIS EIS

The University has determined that this proposal may have potential significant adverse impacts on the environment. This EIS 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. This EIS incorporates by reference the *CMP-Seattle 2003 EIS*, per WAC 197-11-635.

FINAL ACTION

The award of the General Contractor/Construction Manager (GC/CM) contract by the Capital Projects Office after consideration of alternatives and final approval of an alternative by the Board of Regents.

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

EIS AUTHORS AND PRINCIPAL CONTRIBUTORS

The *UW Animal Research and Care Facility Draft and Final Environmental Impact Statement* has been prepared under the direction of the University's Capital Projects Office and analyses were provided by the following consulting firms:

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Seattle, WA 98104

Transportation/Traffic
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Kirkland, WA 98034

PREVIOUS ENVIRONMENTAL DOCUMENTS

Per WAC 191-11-635, this EIS incorporates by reference the following environmental document: University of Washington Master Plan-Seattle Campus EIS (2003) – This EIS evaluated future development of the campus under the Campus Master Plan (*CMP-Seattle 2003*). The Plan identified approximately 70 potential development sites throughout the campus, and included guidelines and policies for development on these sites. The *CMP-Seattle 2003* identified maximum allowable building heights and maximum building envelope estimates for each potential development site, as well as an overall new building square footage maximum of three million gross square feet. A copy of this document is available for review at the University's Online Public Information Center (http://f2.washington.edu/cpo/university-washington%E2%80%99s-sepa-online-public-information-center-0).

LOCATION OF BACKGROUND INFORMATION

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

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

DATE OF FINAL EIS ISSUANCE

November 5, 2014

AVAILABILITY OF THE DRAFT AND FINAL EIS

The Draft and Final EIS have been distributed to agencies, organizations and individuals noted on the Distribution List contained in **Appendix A** to this document. Copies of the Draft and Final EIS are also available for review at the University's Capital Projects Office (University Facilities Building), 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 Final EIS 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.

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CHAPTER 1
SUMMARY

1.1 INTRODUCTION

This chapter provides a summary of the Environmental Impact Statement (EIS) for the University of Washington Animal Research and Care Facility (ARCF) Project. **Chapter 1** briefly describes the Proposed Action (Alternative 1), Alternative 2 (alternate ARCF site) and Alternative 3 (No Action Alternative), and contains a comprehensive overview of environmental impacts identified for the Proposed Action and alternatives. Please see **Chapter 2** of this FEIS for a more detailed description of the Proposed Actions and alternatives; the environmental impacts summarized in Chapter 1 of this FEIS are based on detailed environmental analysis contained in Chapter 3 of the DEIS. Updated information provided subsequent to the issuance of the DEIS is indicated by shaded text.

To support the research being conducted by the University of Washington Health Sciences Department, including the Department of Comparative Medicine (DCM) and the Washington National Primate Research Center (WaNPRC), the University has proposed a new ARCF to meet the specialized building and research requirements of these departments. Currently, existing research and animal housing functions are situated in various locations throughout the campus and Health Sciences Complex. In addition, the DCM and WaNPRC have experienced animal housing capacity issues due to a lack of adequate space which has hampered their ability to function and meet demand. In order to upgrade currently non-compliant facilities, increase holding and procedure space, and provide a new centralized resource for animal research and care, the University of Washington proposes to construct a modernized and centralized facility to provide a productive and healthy working environment for staff, researchers, and animals, while providing adequate space and flexibility for housing animals.

For the purposes of environmental review, two development alternatives (Alternative 1 – Proposed Action and Alternative 2 – Alternate Site), and a No Action Alternative are analyzed in the EIS.

Alternative 1 – Proposed Action

Location

The Proposed Action site is located in the central portion of the University of Washington's Southwest Campus area and includes the Portage Bay Vista. The site is generally bounded by NE Pacific Street to the north, Hitchcock Hall to the east, NE Boat Street to the south, and the William H. Foege Building to the west (refer to **Figure 2-1** and **2-2** for maps illustrating the site location). The Proposed Action is located at and below-grade, under the Portage

Bay Vista, which provides open space, views and pedestrian circulation. The site is generally comprised of vegetated open space area (primarily grass/lawn) and paved pathways, which provide connections between Pacific Street, Boat Street, Foege Hall, and Hitchcock Hall. The "Stronghold" sculpture is located in the central portion of the site and serves as a small gathering area with views towards Portage Bay. The Portage Bay Vista provides a visual corridor though the western portion of the site and was a requirement as part of the 15th Avenue Street Vacation Agreement between the University of Washington and the City of Seattle (August 18, 2000).

Design Concept

Alternative 1 (Proposed Action) would involve development of the proposed ARCF within a below-grade structure on a site that includes the Portage Bay Vista. The ARCF building would include approximately 95,700 square feet of building development to replace currently non-compliant facilities and provide centralized holding and procedure space for the DCM and WaNPRC. Two below-grade building levels would be provided; development would also include an expanded loading dock that would contain an access corridor to link the ARCF with adjacent buildings. Above-grade features of the project would include an approximately 66-foot high, 4,200-square foot utility/exhaust tower for air intake and exhaust in the northeast corner of the proposed building, and an approximately 1,500-square foot structure to provide elevator and stairway access located in the southeast corner of the building. All above-grade building features would be located outside of the Portage Bay Vista. Once building construction is complete, the Portage Bay Vista would be replaced and include a winding pathway and replacement landscaping. The existing view corridor created by the Portage Bay Vista would also remain as part of the project.

Alternative 2 – Alternate Site

Location

The Alternative 2 site is identified as Development Site 45S in the C*ampus Master Plan-Seattle Campus* (*CMP)-Seattle 2003.* and is located in the University of Washington's Southwest Campus area to the south of the Portage Bay Parking Facility and University Transit Center, and west of 15th Avenue NE (refer **Figures 2-1** and **2-2** for maps illustrating the Alternative 2 site location). The Alternative 2 site is primarily comprised of existing surface parking areas (parking lot W24 and W28). Three existing buildings are also located along the western edge of the site, including the Oceanography Research Building.

Design Concept

Under Alternative 2, the ARCF would be constructed as an above-ground structure on Development Site 45S (located south of The Portage Bay Parking Facility between Brooklyn Avenue NE and 15th Avenue NE). The two-level building would contain approximately 90,000 square feet of above-grade and below-grade building space and would be

approximately 30 to 40 feet tall. Loading and service areas would be located above-grade at the northwest corner of the building.

Alternative 3 - No Action Alternative

Under Alternative 3 – No Action Alternative, the ARCF would not be constructed and the proposed site would remain in its primarily vegetated condition with existing pathways. The DCM and WaNPRC would remain in their existing locations and could continue to experience capacity and space deficiencies.

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 EIS. **Table 1-1** provides a summary of the potential impacts that would be anticipated under the EIS Alternatives. This summary is not intended to be a substitute for the complete discussion of each element that is contained in **Chapter 3** of this document.

Table 1-1
IMPACT SUMMARY MATRIX

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
3.1 – CONSTRUCTION			
Construction Activities	• Construction activities on the site would include demolition and removal of all existing landscaping, trees, pathways, and the existing curb north of the site.	• Construction activities would include the demolition and removal of three existing buildings, surface parking areas, landscaping, and paved driveways/pathways.	• No new development would occur under Alternative 3 and no impacts associated with construction activities would occur.
Grading	• Grading activities would require approximately 84,000 cubic yards of cut and 3,150 cubic yards of fill.	• Grading activities would require approximately 30,000 cubic yards of cut.	• No new development would occur under Alternative 3 and there would be no impacts associated with grading.
Air Quality	• Construction would generate air pollutants as a result of fugitive dust from demolition, earthwork/excavation activities, construction vehicles and equipment emissions, and other activities. Nearby buildings, pedestrians and bicyclists could be sensitive to fugitive dust. Air intakes of adjacent buildings would be temporarily ducted and protected.	• Construction activities would generate similar air pollutants to those described for Alternative 1, but the overall amount of fugitive dust would be less due to a lower amount of anticipated excavation. Demolition of existing buildings on the site could result in exposure to hazardous materials; if found onsite, materials would be treated and removed in accordance with applicable laws and regulations.	• No new development would occur under Alternative 3 and no construction-related impacts to air quality would occur.
Greenhouse Gas Emissions	• Construction activities would generate GHG emissions associated with production and extraction of construction materials, energy consumption, and vehicle emissions associated with delivery vehicle trips.	• The proposed project would generate construction GHG emissions as described for Alternative 1.	• No new development would occur under Alternative 3 and no construction-related GHG emissions would be generated.
	• Alternative 1 would result in estimated total annual GHG emissions of 2,321.3 $MTCO_2E$.	• Alternative 2 GHG emissions are anticipated to be similar to or less than Alternative 1.	• No new development would occur under Alternative 3 and no construction-related GHG emissions would be generated.
Noise	• Construction activities would temporarily increase localized sound levels in the site vicinity and in the vicinity of streets used by construction vehicles accessing the site. Construction noise would result in a temporary annoyance and possibly	• Construction noise impacts would be similar to those described for Alternative 1, although noise associated with excavation is anticipated to be less than Alternative 1, and building construction noise would likely be higher due to the amount of above-ground	• No new development would occur under Alternative 3 and no impacts associated with construction noise would occur.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
	increased speech interference at adjacent University uses and local businesses. Measures to limit impacts could include limiting construction hours and use of higher noise equipment, and ensuring use of properly sized/maintained equipment and mufflers, etc.	construction. Measures to limit the potential for construction noise impacts would be undertaken as described for Alternative 1.	
Vibration	• Construction activities would temporarily generate vibration at the site and surrounding area, with the highest vibration levels generated by the following activities: demolition, excavation, drilling piles, and underpinning foundations. Measures to limit vibration could include drilling rather than driving piles, utilizing a concrete processor instead of a hoe ram, using a static roller for compaction, and sawcutting the foundations at Foege North.	• Construction activities would be similar to Alternative 1, and vibration impacts would be similar to or less than those described for Alternative 1 due to less excavation occurring under Alternative 2.	• No new development would occur under Alternative 3, and no construction-related vibrations would be generated.
	• Sensitive research uses within nearby campus buildings that could be affected by construction vibration include: research animals, routine laboratory/optical imaging tools, and advanced imagining tools and experiments. – *Research Animals* — Most research animal spaces are located on upper building floors where vibration from construction activities would not be expected to substantially increase above existing conditions. Foege North is the only building where the potential for vibration impacts is considered high. – *Routine Laboratory/Optical Imaging Tools* — This sensitive use is mostly conducted on upper building floors, and is therefore at a low risk of vibration impacts. There is a high potential for impact at the Physics/Astronomy Auditorium where	• Construction activities under Alternative 2 would be similar to those described for Alternative 1. Due to the location of the Alternative 2 site, however, sensitive uses are located at a greater distance from the site. Therefore, it is anticipated that potential vibration impacts to surrounding sensitive uses would be lower than under Alternative 1. As under Alternative 1, any potential vibration impacts could be addressed through monitoring, schedule coordination, and/or relocation.	• No new development would occur under Alternative 3 and vibration from outside of buildings would continue to dominate vibration levels on slob-on-grade building floors, and vibration from inside buildings (from people walking) would continue to dominate the vibration level on upper building floors.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
	activities take place on the ground floor, and at Foege North and South due to proximity to the project site. – *Advanced Imagining Tools and Experiments* — Based on the distance from construction activities, this sensitive use would be considered at a high potential for impact within the Magnuson J-Wing and Physics/Astronomy (under Auditorium) buildings. Vibration impacts to sensitive research uses would be addressed through monitoring, schedule coordination, equipment, and/or relocation.		
Transportation	• Construction activities would generate varying levels of traffic and associated transportation impacts for the duration of the 27-month construction period.	• Construction activities would generate varying levels of traffic and impacts for the duration of construction similar to that described for Alternative 1.	• No new development would occur under Alternative 3 and there would be no construction-related transportation impacts.
Street System Impacts	• Street system impacts would include creation of a new construction access to the site from NE Boat St., physical circulation needs of truck haul routes to and from the site, material deliveries and intermittent lane closures along area roadways.	• Street system impacts would include access to the site from Brooklyn Ave. NE, the anticipated haul route of trucks to and from the site, material deliveries, and intermittent lane closure along area roadways for utility work.	• No new development would occur under Alternative 3 and there would be no construction-related street system impacts.
Traffic Volume Impacts	• Construction traffic to and from the site would occur intermittently throughout the course of a weekday, with the highest traffic levels occurring during excavation and site grading. Up to 20 trucks per hour could travel to and from the site during this four-month period, between 7 AM and 3:30 PM, outside of PM peak hour traffic (4 to 6 PM). This would represent approx. 10 % of existing volumes on 15th Ave. NE and NE Boat St. Given the magnitude, temporary nature and proposed mitigation, significant traffic volume impacts are not anticipated.	• Traffic volume impacts would be similar to those identified for Alternative 1. The traffic surge associated with excavation hauling activity is not anticipated to create significant traffic volume impacts.	• No new development would occur under Alternative 3 and there would be no construction-related traffic volume impacts.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
Pedestrian Facility Impacts	• Pedestrian pathways on the site (including the east-west pedestrian corridor) and the Hitchcock Bridge ramp would be closed throughout much of the construction period, and the NE Pacific St. sidewalk would be temporarily closed for about two weeks. Pedestrians would be directed to sidewalks along public roadways surrounding the site. Existing sidewalks could accommodate the increased pedestrian volumes. • Localized increases in pedestrian activity from nearby parking areas to the construction site would also occur, resulting in increased pedestrian traffic crossing at the 15th Ave. NE midblock crossing. Impacts are not anticipated to be significant due to existing pavement treatments and signage.	• Pedestrian activity along the east side of Brooklyn Ave. NE and the west side of 15th Ave. NE would have increased exposure to construction activities, and two new conflict points for pedestrians and vehicles would be created by construction access to the site via Brooklyn Ave NE.	• No new development would occur under Alternative 3 and there would be no construction-related pedestrian facility impacts.
Bike Facility Impacts	• Two bicycle parking facilities within the construction area would be temporarily relocated near the project site during construction. Also, the ramp to the Hitchcock Bridge would be demolished at the beginning and rebuilt at the end of the project. Demolition of the bridge ramp could take up to two weeks and would require the temporary closure of the sidewalk on the south side of NE Pacific St.	• Increased conflicts between construction traffic along Brooklyn Ave. NE would occur during construction, particularly at the two new construction access points.	• No new development would occur under Alternative 3 and there would be no construction-related bike facility impacts.
Parking Impacts	• Parking demand within the site vicinity would increase due to construction employees parking in the area and potential construction equipment staging. Up to 150 construction employees are anticipated during peak activity periods. Employees would be accommodated in the W28 lot to the west of the site, or within another parking area near the site during periods of high activity surges. The W28 lot capacity would be maximized through the use of valet services. Trailer parking for construction vehicle	• Parking in the W24 and W28 lots would be displaced and users of these heavily used lots would be reassigned to lots in the site vicinity. Also, parking currently allocated to Agua-Verde would be displaced; provisions for replacement parking would be made. Construction worker parking would likely be accommodated within the 11 existing University parking lots located within 1,200 feet of the site. During peak construction activity, regular users of those lots would be displaced to other lots on campus, which	• No new development would occur under Alternative 3 and there would be no construction-related parking impacts.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
	staging would occur in lot W24. Existing users of both parking lots (including Aqua-Verde) would be temporarily relocated to nearby facilities.	could result in additional walk times for individuals. In addition, due to a limited amount of site area available for construction staging, Alternative 2 would result in increased displacement of on-street parking and vehicle/equipment movement on public streets when compared to Alternative 1.	
Traffic Safety Impacts	• Traffic would increase as a result of construction activity, resulting in a proportional increase in potential vehicle collisions and vehicle pedestrian exposure. Overall increases to traffic volumes would fall within the range of typical daily volume fluctuations. Also, construction would be temporary, and measures would be taken to redirect pedestrian and bicycle traffic, and manual control (flagger) would be exercised at key conflict locations. Therefore, significant safety impacts are not anticipated.	• Safety impacts would generally be related to construction vehicle activity, which could result in a proportional increase in the likelihood of vehicle collisions and vehicle pedestrian exposure similar to that described for Alternative 1. As with Alternative 1, increases in construction traffic volumes would fall within typical daily fluctuations. Proposed manual traffic control (flagger) at the site construction access from Brooklyn Ave. NE would minimize potential safety impacts from construction access driveways onto NE Boat St.	• No new development would occur under Alternative 3 and there would be no construction-related traffic safety impacts.
Transit Impacts	• Indirect impacts to pedestrian and bicycle access to bus stops and general traffic volume-related impacts could occur. One public transit bus stop (near the Hitchcock Bridge ramp) would be temporarily relocated for two weeks, and intermittent lane closures along NE Pacific St. could delay bus routes. Such delays would generally not last any longer than one-day. Also, one Dial-a-Ride stop in the site vicinity would be relocated during much of the construction period.	• Indirect impacts to pedestrian and bicycle access to bus stops and general traffic volume-related impacts could occur. The construction of two temporary construction access points would temporarily impact a current layover space for King County Metro.	• No new development would occur under Alternative 3 and there would be no construction-related transit impacts.
Trees	• The approximately 49 existing trees on the project site would be removed and new trees would be planted along the east and west sides of the Portage Bay Vista. Tree replacement would be 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.	• The approximately 20 existing trees on the project site and approximately 10 street trees would be removed during construction. As with Alternative 1, tree replacement would be 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.	• No new development would occur under Alternative 3 and there would be no impacts to trees.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
Cultural Resources	• Archival research and field studies (including surface and subsurface surveys on the site) were completed and determined that the proposed construction of the project would not be anticipated to impact cultural or archaeological resources and no further cultural resource work is recommended.	• Similar to Alternative 1, proposed construction under Alternative 2 would not be anticipated to impact cultural or archaeological resources.	• No new development would occur under Alternative 3. There would be no impacts associated with cultural resources.
Other Construction Impacts	• Construction activities would result in temporary impacts to groundwater at the site. A temporary dewatering system would be provided, and on-site water treatment and storage would likely be required. The proposed ARCF would be designed as a waterproof structure with a subsurface drain system to minimize the potential for the building to obstruct groundwater flow.	• Construction activities could encounter groundwater, but at a lesser potential than under Alternative 1. A temporary dewatering system would be provided during construction. Because the proposed building would be an above-grade structure, it is likely that no subsurface drain system would be required.	• No new development would occur under Alternative 3. There would be no impacts associated with other construction activities.
	• Construction activities and equipment could temporarily affect views of and across the site, including views of Portage Bay through the Portage Bay Vista. It is anticipated that this would only affect a portion of the site, and that partial views would continue to be available during construction. Visual impacts would be temporary and views would be enhanced subsequent to construction activities; as a result no significant construction-related visual impacts are anticipated.	• Construction activities and equipment located onsite could temporarily affect views across the site towards Portage Bay. Views in this area are already limited due to existing development and vegetation, and no significant impacts would be anticipated.	• No new development would occur under Alternative 3. There would be no impacts associated with other construction activities.
	• Construction of the proposed ARCF building as an underground structure would result in a higher level of seismic stability due to the surrounding soil around the building compared to an above ground building.	• The above ground construction of the ARCF under Alternative 2 would result in a structure that would potentially be more prone to seismic activity than Alternative 1.	• No new development would occur under Alternative 3.
Cumulative Impacts	• Phases of several other construction projects in the site vicinity could overlap with construction of the ARCF Project. All	• Cumulative impacts would occur as described for Alternative 1.	• No new development would occur under Alternative 3. There would be no cumulative construction impacts.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
	temporary construction activities associated with other projects would occur in compliance with applicable UW and/or City of Seattle regulations and guidelines, and all area projects would prepare Construction Management Plans to mitigate potential transportation issues during construction.		
3.2 - LAND USE			
Temporary Construction-Related Impacts	• Construction-related impacts would include: temporary closure of the area to open space and circulation uses, and impacts to surrounding University, commercial, and marine uses related to dust from clearing, grading, and excavation; emissions from construction vehicles and equipment; increased noise levels; vibration from grading activity and heavy equipment use; and increased traffic associated with construction vehicles and workers.	• Construction-related impacts under Alternative 2 would displace existing parking and academic uses on the site. Temporary construction-related impacts to surrounding uses would be similar to those described for Alternative 1, although less excavation would occur because of the above grade placement of the ARCF under Alternative 2.	• No new development would occur under Alternative 3. There would be no temporary construction-related impacts.
Direct Impacts (conversion of uses)	• Under Alternative 1, the ARCF would include approximately 95,700 sq. ft. of building development. A two-level, 90,000 sq. ft. below-grade facility would be provided on the site. Visible above-grade features of the project would include a 66-ft. tall, 4,200 sq. ft. mechanical tower, and a 1,500 sq. ft. entrance pavilion. The existing below-grade loading dock adjacent to Hitchcock Hall would be modified to accommodate increased traffic and a below-grade Animal Receiving Dock. Existing ground-level uses on the site would be retained including the Portage Bay Vista, pedestrian/bicycle circulation and replacement landscaping.	• Three existing buildings would be demolished and approximately 90 surface parking stalls removed to convert the site into new academic/research uses. Existing buildings and parking areas would be permanently displaced and it would be necessary for the University to work with existing users to find suitable relocation ares prior to development. Depending on the relocation site for the parking areas, the displacement could result in a reduction in available parking for the South Campus area. Under Alternative 2, the ARCF building would be an above grade, two-story, 90,000 square foot facility. Impervious area on the site would remain similar to existing conditions, but the building area on site would increase.	• No new development would occur under Alternative 3. Existing uses on both sites would continue as under existing conditions.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
Project Features/ Characteristics	• The design of Alternative 1 includes features to enhance compatibility with existing surrounding land uses that include below-grade placement of the building, protection and improvement of the Portage Bay Vista, replacement landscaping, and pedestrian circulation.	• The assumed design of Alternative 2 includes features to minimize potential land use conflicts with surrounding uses that include building orientation, design and materials, landscaping and open space and street improvements. The facility's height, bulk, and scale would generally be less than most existing buildings in the surrounding area.	• No new development would occur under Alternative 3. On the Proposed Action site, existing pedestrian pathways would not be improved and landscaping and grading of the Portage Bay Vista would not be enhanced.
	• Development of the ARCF under Alternative 1 would create a centralized facility (and loading dock) that would be located adjacent/proximate to research uses which would enhance efficiencies and transportation of research materials between the ARCF.	• Development of the ARCF would create a less centralized facility that would result in reduced efficiencies for research operations, and well as potential additional safety issues due to the need to transport materials across 15th Avenue NE to existing research facilities.	• No new development would occur under Alternative 3.
Relationship to Surrounding Uses	• Activity levels on the site (i.e., noise and vehicle/ pedestrian traffic associated with employees, students, and academics) could increase. However, because the facility would largely be below grade, such increases would generally only be apparent at the building entrances and the existing, improved loading dock. Overall, activity levels would be consistent with other existing academic/research campus uses in the vicinity.	• Activity levels (i.e., noise and vehicle/ pedestrian traffic associated with site population) could decrease slightly compared to existing conditions. As with Alternative 1, activity levels would be consistent with other existing academic/research uses in the vicinity.	• No new development would occur under Alternative 3. Activity levels on both sites would remain similar to existing conditions.
Indirect Impacts	• Alternative 1 would replace existing, non-compliant facilities with new facilities and expand existing ARCF uses. This would partially divert population from other areas of campus, and increase the net population. Facility occupants (anticipated at approximately 40 individuals), would not be expected to result in increased demand for services. Minimal increases in pedestrian and vehicular traffic would result, and existing campus infrastructure could	• Indirect impacts would be similar to Alternative 1. As with Alternative 1, the demand for services or need for additional infrastructure is not expected to increase.	• No new development would occur under Alternative 3. There would be no indirect impacts.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
	accommodate any such minor increases.		
3.3 – AESTHETICS			
Temporary Construction-Related Impacts	• Construction activities would temporarily affect the aesthetic character of the site and surrounding area. Measures to control air, noise, light, and other construction related disturbances could lessen aesthetic impacts.	• Temporary construction activities could affect the character of the site and surrounding area generally as described for Alternative 1. Measures to control impacts would be generally as described for alternative 1.	• No construction activity would occur under Alternative 3 and there would be no temporary construction-related impacts.
Aesthetic Character	• Under Alternative 1 a two level, 95,700 square foot building would be constructed below grade. Visible above-grade features of the facility would be located outside of the Portage Bay Vista and would include a 66 ft. tall mechanical tower and an entrance pavilion; the Portage Bay Vista would be retained. The surface level portion of the site would continue to serve as the Portage Bay Vista, east/west pedestrian corridor and open space area.	• Under Alternative 2 a new, two-story (30 to 40 ft. tall), 90,000 sq. ft. above grade building would be developed. In general, the building would be similar to or less than the height of existing surrounding buildings.	• No new development would occur and the aesthetic character of the Proposed Action and Alternative 2 sites would remain in existing conditions.
	• The aesthetic character of the site would reflect a winding pathway and replacement landscaping. The Stronghold sculpture would be resituated within the northwest portion of the Portage Bay Vista. The visual corridor associated with the Portage Bay Vista would be retained.	• The aesthetic character of the site would reflect the new two story building with a primary entrance at the northeast corner of the site, loading and service from Brooklyn Avenue NE in the northwest portion of the site; new landscaping; and, a pedestrian path (NE Skamania Lane) along the northern site boundary.	• No new development would occur and the aesthetic character of the Proposed Action and Alternative 2 sites would remain in existing conditions.
	• New landscaping would include trees along the western and eastern edges of the site and replacement lawn/grass areas to create an open concept. Additional landscaping could be provided in the future similar to the level illustrated in the DEIS.	• Landscaping and open space areas along the north and south ends of the site would provide a visual buffer between the new building and adjacent uses.	• No new development would occur and the aesthetic character of the Proposed Action and Alternative 2 sites would remain in existing conditions.

	Alternative 1 Proposed Action	Alternative 2 Alternate Site	Alternative 3 No Action Alternative
Potential Views to the Site	• Views of the Alternative 1 site would remain similar to existing conditions (reflecting open space in an urban campus environment). Views of and through the Portage Bay Vista would remain.	• Views of the Alternative 2 site would change with the addition of the two-story ARCF facility that could partially block views of surrounding buildings. The overall visual character of the views would remain that of an urban campus environment with a slight increase in density of development.	• No new development would occur under Alternative 3. Views of both sites would remain in existing conditions. The visual character of the Portage Bay Vista would not be improved with new lawn, landscaping or plaza areas

Construction

Mitigation Measures

The following measures would be implemented to mitigate potential construction impacts from the development of the proposed UW ARCF. These mitigation measures would be applicable for both Alternative 1 and Alternative 2, unless noted otherwise.

Air Quality

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

- Site development would adhere to the Puget Sound Clean Air Agency (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 the Alternative 1 site 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 UW ARCF.

- Continued implementation of the University's Transportation Management Plan (TMP) would reduce vehicle trips to the campus (including the ARCF site), 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, research and commercial uses near the site, 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 UW ARCF Project.

- Most construction activities would be limited to standard construction hours between 7 AM and 6 PM on weekdays and 9 AM and 6 PM on Saturdays.
- Deliveries would generally be scheduled during daytime hours.
- Placement of materials and backing up of trucks could be done without warning beepers (with a flagger walking behind the vehicle).
- Alternate 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 motors 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 UW ARCF.

- The project manager would work with individual research uses to define specific vibration criterion for the researchers in the vicinity of the site, where appropriate.
- Vibration levels would be monitored at sensitive receptors during all construction activities to validate predicted vibration levels and provide a real-time notice when construction activities create higher vibration levels than anticipated. Vibration sensors would be installed in existing buildings surrounding the project site to provide continuous vibration monitoring during the construction process. The sensors would have the ability to send notifications if vibrations levels exceed a specific limit for the surrounding buildings. This information would be used to determine when and how additional mitigation measures below would be implemented.

- For construction activities that are predicted to generate a high potential for vibration impacts at sensitive uses, the Contractor would coordinate with the University of Washington and the researchers to schedule activities such that sensitive experiments are not conducted simultaneously with vibration-intensive construction activities.
- For impacts to researchers using routine laboratory equipment and optical imaging tools, instruments could be remounted on air isolation tables to attenuate the construction-generated vibration levels, allowing research to continue without degradation.
- For impacts to researchers that cannot be addressed by the identified mitigation measures, the researchers or facilities could be temporarily relocated during the vibration generated construction activities.

- To the extent feasible, prefabrication of construction materials would be conducted at an off-site location to reduce to the amount of work on-site and the associated vibration impacts. Anchors for hangers in the structure could also be preinstalled to eliminate the need for drilling into concrete onsite.
- 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 would 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.

Transportation

Alternative 1 Mitigation Measures

The following measures would be implemented to mitigate potential construction-related transportation impacts from the development of the UW ARCF under Alternative 1.

- Manual traffic control would be implemented at both construction access points along NE Boat Street to minimize impacts to traffic. Manual traffic control would reduce the length of time construction vehicles might wait for gaps in opposing traffic to enter and exit the sites, reduce the likelihood of inbound construction vehicles blocking eastbound traffic and reduce the likelihood of long outbound vehicle queues forming that could impact construction activity. This added level of traffic control would also manage pedestrian, bicycle, and vehicular traffic at this location, thereby minimizing the potential conflicts between these three modes.

- Intermittent lane closures are anticipated to be temporary in nature, lasting no more than one day and would occur during non-peak traffic conditions. Brief lane closures throughout the area may occur to accommodate short-term construction activities. This would result in some delay to traffic on these roadways. Potential impacts would be reduced by planning for the activity to occur only during off-peak periods when possible. Impacts of lane closures would be mitigated through implementation of a Traffic Control Plan which requires additional permitting from the Seattle Department of Transportation (SDOT).
- A neighborhood communication plan would be developed for purposes of communicating upcoming construction activities that may impact travel on the street system surrounding the project.
- Haul trucks would be marshalled to/from the site to minimize the likelihood and potential impacts associated with simultaneous arrivals or departures.
- Temporary pathways and/or pedestrian wayfinding signage would be constructed and implemented to direct pedestrians to routes not impacted by construction. In general, pedestrians that would use the east-west pedestrian corridor located within the construction area would be redirected to the existing sidewalks along NE Pacific Street, 15th Avenue NE, and NE Boat Street. During the two-week period that the sidewalk on NE Pacific Street is closed, pedestrians could be rerouted through the Island I-Wing Rotunda located east of the project site. This building can provide a north/south pedestrian connection from NE Columbia Road to NE Pacific Street. These detour routes will be prepared and approved by the City of Seattle as part of the sidewalk closure process and would maintain ADA accessible routes. University of Washington has developed a Campus Mobility Route Map (http://www.washington.edu/admin/ada/mmap.pdf) for the area. These identified ADA accessible routes would be maintained or alternative routes identified as part of the wayfinding and mitigation plans.
- Detours would be in place for bicycles during the period of the NE Pacific Street sidewalk and east-west pedestrian corridor closure. These detour routes would be prepared in coordination with and approved by the City of Seattle as part of the sidewalk closure process. In general, it is anticipated that bicyclists would be routed to 15th Avenue NE, then NE Boat Street if approaching from the west or NE Columbia Road approaching from the east.
- Bicycle parking areas displaced during construction (lockers and racks) would be relocated in the same general area as the current locations. The bicycle lockers and racks located on the northwest corner of the construction site would be relocated south along the Foege Biosciences building, near the east/west pedestrian corridor. These areas would not be impacted by construction and can accommodate the

additional bike lockers. The bike shelter located adjacent to Hitchcock Hall would be relocated to Annex 4 area.[1]

- Bicycle parking demand would be monitored during construction.
- Depending on construction phasing and corresponding construction worker employment levels, the contractor would utilize valet parking to maximize the parking supply available in the W28 parking lot. With valet parking under peak construction worker parking demand, the W28 parking lot is anticipated to accommodate the peak construction worker parking demand.
- Parking previously provided to Agua-Verde would be relocated in a phased manner to other adjacent parking lots in the site vicinity on a temporary basis.
- Due to the proximity of the construction activity to the NE Pacific Street frontage, a covered walkway would be installed along the project perimeter. Due to the resulting sidewalk width at this point, bicyclists would be required to dismount and walk their bike through the area.
- The transit stop located along the south side of NE Pacific Street would be temporarily relocated near the Hitchcock Bridge ramp during the demolition period. This temporary relocation would be in effect for up to two weeks.
- The Dial-a-Ride stop, located along the south side of NE Pacific Street immediately east of 15th Avenue NE (#128), would be relocated to another existing stop at the University Transportation Center along southbound 15th Avenue NE south of NE Pacific Street (stop #77).

Alternative 2 Mitigation Measures

The following measures would be implemented to mitigate potential construction-related transportation impacts from the development of the UW ARCF under Alternative 2.

- Impacts to the surrounding street system by the construction vehicle access driveways, haul route, and ingress/egress construction vehicles accessing the construction site could be reduced through the use of manual traffic control at both construction access points along Brooklyn Avenue NE. This manual traffic control at both locations is anticipated to reduce the length of time construction vehicles might wait for gaps in opposing traffic to enter and exit the sites, reduce the likelihood of inbound construction vehicles blocking eastbound traffic and reduce the likelihood of long outbound vehicle queues forming that could impact construction activity. This added level of traffic control would also manage pedestrian, bicycle, and vehicular traffic at this location, thereby minimizing the potential conflicts between these three modes.

[1] The Annex 4 area will be demolished as part of the ARCF project.

- A neighborhood communication plan would be developed for purposes of communicating upcoming construction activities that may impact travel on the street system surrounding the project.
- Include additional pedestrian protection along the Brooklyn Avenue NE and 15th Avenue NE project frontages that include construction barriers or covered walkways. Alternatively, these sections of the sidewalk could be closed temporarily and pedestrians rerouted to the opposite sides of both impacted streets during construction activities.
- Parking previously provided to Agua-Verde will be relocated in a phased manner to other adjacent parking lots on a temporary basis.
- The layover space currently allocated for King County Metro will be reduced to accommodate the temporary access points. On-going coordination with King County Metro will be required to determine if adequate space will remain once the temporary driveways are constructed. If additional space is needed, additional areas will be identified for layover space. As noted previously, on-street parking exists along Boat Street, west of Brooklyn Avenue. This curb space could be repurposed during the construction period and be used for Metro layover space.

Trees

No Exceptional Trees are located on the site. However, the following measure would be implemented to mitigate potential construction-related tree impacts from the development of the UW ARCF.

- 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.

Cultural Resources

The following measure would be implemented to mitigate potential construction-related impacts to cultural resources.

- In the event that archaeological deposits are inadvertently discovered during construction, ground-disturbing activities would be halted immediately and the University of Washington would contact DAHP and interested Tribes, as appropriate. If ground-disturbing activities encounter human skeletal remains during the course of construction, then all activity that may cause disturbance to those remains would cease and the area would be secured and protected from further disturbance. In addition, the finding of remains would be reported to the county coroner and local law enforcement.

Other Construction Impacts

The following measures would be implemented to mitigate other potential construction-related impacts from the development of the UW ARCF.

- A temporary dewatering system would be provided during construction of the ARCF to accommodate a discharge rate of at least 50 GPM, which would account for any short-term increases in water discharge rates. Water collected by the temporary dewatering system would discharge to a University-owned stormwater outflow.

- To minimize the potential for the proposed ARCF structure to obstruct groundwater movement and reduce the risk of water intrusion into the structure under Alternative 1, a subsurface drain system would be provided, including a full-coverage wall drainage against the shoring wall which would connect to a groundwater sump/pump located under the loading dock. Groundwater would be discharged to the University-owned 24-inch direct discharge stormwater main.

- As part of excavation activities under Alternative 1, the foundation walls and footings for the William H. Foege Building, Hitchcock Hall and the loading dock would be exposed and examined for damage. Damage from construction to the waterproofing systems would be repaired immediately. The footings for some of these structures would need to be modified, at which time patching of the waterproofing would be performed. Additional examination of the condition of the existing waterproofing systems would be performed to identify any other potential areas for waterproofing repairs.

- In the event that contaminated soils are encountered during construction, such soils will be handled consistent with applicable regulations.

Significant Unavoidable Adverse Impacts

Construction of the proposed Animal Research and Care Facility Project would result in some construction-related air quality, GHG emissions, noise, vibration, transportation 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.

Land Use

Mitigation Measures

The following measures could be implemented to mitigate potential land use impacts from the development of the UW ARCF. These mitigation measures would be applicable for both Alternative 1 and Alternative 2, unless noted otherwise.

- Development of the ARCF would be consistent with applicable provisions of the *CMP-Seattle 2003*.

- Landscape design features under Alternative 1 would be incorporated into the design of the ARCF.

- The below-grade placement of the facility under Alternative 1 would preserve the Portage Bay Vista and east/west pedestrian corridor.

- ARCF functions would be consolidated in one location and would address existing deficiencies in care, space, and capacity.

Significant Unavoidable Adverse Impacts

Development of the ARCF would result in the temporary displacement of existing open space and pedestrian and bicycle circulation uses on the site during construction. The project would result in an increase in activity in the area. However, with the implementation of the proposed mitigation measures and provisions required by the *CMP-Seattle 2003*, no significant land use impacts would be anticipated.

Aesthetics

Mitigation Measures

The following mitigation measures are proposed for development of the ARCF project. These mitigation measures would be applicable for both Alternative 1 and Alternative 2, unless noted otherwise.

- The development of the ARCF under Alternative 1 would retain views of/through the Portage Bay Vista by placing the majority of the building underground. Above ground portions of the building would be located outside of the Portage Bay Vista, and be designed to blend into the façade of existing buildings.

- New landscaping would be provided on the Portage Bay Vista under Alternative 1. The proposed landscape design would be approved by the UW Landscape Advisory Committee. This committee includes experts in planting, botany, landscape architecture, urban design, horticulture, art, architectural history, and grounds maintenance.

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

Significant Unavoidable Adverse Impacts

The proposed ARCF project would be developed below-grade in order to preserve views across the Portage Bay Vista, and visible above grade features of the ARCF would be confined to the east portion of the site outside of the Portage Bay Vista. On the Alternative 2 site, the assumed building would intensify the level of development in the area; however, the height of the facility would generally be consistent with other buildings in the surrounding area and changes to the overall visual character of the Southwest Campus would be consistent with urban development of the City and this area. Significant adverse visual impacts would not be anticipated.