FINAL

ENVIRONMENTAL ASSESSMENT
AMERICAN LAKE VA HOSPITAL
BUILDING 81 SEISMIC REPLACEMENT

Submitted to:
US Department of Veterans Affairs

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PBS | Engineering + Environmenta

FINDING OF NO SIGNIFICANT IMPACT
(FONSI)

The U.S. Department of Veterans Affairs (VA) assessed the potential impacts associated with the Building 81 Seismic Replacement Project (Proposed Action) at the American Lake Veterans Hospital (ALVH) campus. An Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 CFR Parts 1500-1508), and the Department of Veteran Affairs Environmental Compliance Manual and VA regulations (Title 38 CFR Part 26). The attached EA is incorporated by reference into this Finding of No Significant Impact (FONSI).

BACKGROUND

The Veteran's Administration Puget Sound Health Care System (VAPSHCS) plans to build a new outpatient medical building at the American Lake Veterans Hospital campus as part of a series of improvements to the campus. The ALVH is located on the grounds of the Joint Base Lewis McChord military reservation, south of Tacoma, WA on the shores of American Lake. The original campus was constructed in the mid 1920's and is considered an important example of the Spanish Colonial Revival style of architecture. In 2008, the core of the American Lake campus was listed on the National Register of Historic Places. A 93,747 square foot outpatient hospital (Building 81) was added to the campus in 1947 and currently houses most of the outpatient medical services. Almost 90% of all patients visiting American Lake currently receive some services at Building 81. In its current condition Building 81 poses a life-safety threat to patients and staff because of its seismic vulnerability and would be rendered unoccupiable in a major earthquake. Building 81 also has a number of other deficiencies and is not capable of meeting current VA standards for the delivery of medical services.

Several alternatives were considered for remedying the seismic deficiencies of Building 81. Because Building 81 is considered a contributing structure within a designated historic district, tearing down and rebuilding on the same location was not considered a viable alternative. Alternatives to a No-Action Alternative included:

- Seismically upgrading Building 81
- Contracting out most outpatient medical services
- Relocating services to leased space elsewhere in the region
- Building a new outpatient medical facility

The alternative of seismically upgrading Building 81 so that it could continue to serve as the primary medical building was evaluated but eliminated from further review. The building is over 60 years old and not designed to accommodate modern health care delivery standards and outpatient needs. No reasonable amount of renovation could bring the building up to modern standards. Costs for seismic renovations have also risen dramatically over the last several years, making this option more expensive than building a new facility. This alternative also could not accommodate projected needs for additional space and would result in major disruptions to patient services and inconveniences to staff and patients during construction.

Out-sourcing the outpatient medical services or leasing space off campus were also considered but eliminated from further review. There is not sufficient capacity in the

combined civilian or other federal agency facilities in the vicinity to handle the current or anticipated volume of patients and workload. An existing 30,000 plus patients a year currently receive services at Building 81. An initial life cycle cost analysis indicated that contracting out services would also be prohibitively expensive. There is no suitable excess government property available for lease in the immediate vicinity and any leased commercial space would be some distance from the campus. Both out-sourcing and leasing space would act to fragment the delivery of services and likely lead to the eventual closure of the American Lake campus.

Construction of a new medical facility will not only allow the ALVH to continue to deliver first class medical services to veterans in a safe and modern facility, but also provide backup to the Department of Defense in the event of a natural disaster or state of emergency. Because the existing facility can remain fully functional during construction of the new building, there will be only minimal disruption to patient services.

SUMMARY OF PROPOSED ACTION

The new 70,000 gross square foot medical facility will be constructed just south of the existing Building 81 on a site currently occupied by the Canteen. This site was chosen for its proximity to the heart of the historic campus and relationship to existing medical services in Buildings 81, 2, and 3. The new facility (Building 201) will be designed to meet the historical, natural and architectural setting of the surrounding campus and constructed to meet the requirements of a regional disaster center. The building will also be designed to meet or exceed LEED (Leadership in Energy and Environmental Design) Silver Standard and will include improvements in space planning, functional layout, patient privacy and wayfinding. All departments currently housed in Building 81 will move to Building 201 with the exception of ambulatory care and radiology services which will remain in the newer additions to Building 81. Building 81 will be preserved and eventually seismically updated for use as offices. The Canteen and five utility buildings will be demolished under this alternative. All services provided in the Canteen building will be relocated to Building 2, which is currently being renovated.

The project also includes the expansion and redesign of the north parking lot to include eighty additional spaces and improved stormwater management. Veterans Drive SW will be re-routed along the northern perimeter of the redesigned parking lot and the existing Veterans Drive SW between Curtis Drive and Engle Way will become a pedestrian walkway. There will be a central drop-off location and a covered walkway that will serve both Building 201 and Building 81.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The Proposed Action is expected to result in long-term beneficial impacts to aesthetics, community services, cultural resources, resident population, seismic hazards, and transportation and parking.

Long-term moderate adverse impacts will occur to cultural resources through the removal of several historically contributing structures and construction of the new medical facility within the historic district. The VA entered into consultation with the State Historic Preservation Office (SHPO) to ensure consistency with the National Historic Preservation Act. SHPO has approved a memorandum of agreement for the project that includes the following mitigation measures: phasing the project to maintain critical

services, the long-term preservation and re-use of Buildings 2 and 81, documentation of all historic facilities prior to demolition, surveying and monitoring excavation areas for archeological resources during construction, and development of an exhibit on the history of the American Lake Veterans Hospital and historic district.

There will also be some moderate long-term adverse impacts to vegetation through the removal of a number of mature trees, including several priority Oregon oaks. Mitigation measures include replacing native trees at a ratio of 5:1 and establishment of a new grove of Oregon oak.

Construction activities have the potential to generate dust, noise, storm water runoff, and disruptions to parking, transportation, and patient services. Best management practices and mitigation measures outlined in the EA will minimize the potential for construction related short-term adverse impacts to aesthetics, air quality, resident population, noise, transportation/parking, water resources, and wildlife.

FINDING OF NO SIGNIFICANT IMPACT

This FONSI is based on the attached Environmental Assessment. The analysis performed in the EA conclude that there would be no severe short-term, long-term or cumulative impacts to the human environment, provided best management practices and mitigation measures outlined in the EA are fully implemented. Therefore, this FONSI is appropriate and an Environmental Impact Statement is not required.

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Office of Construction and Facilities Management

30 Nov 2011
Date

Michael Fisher
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2/24/13
Date

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Executive Summary

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 CFR Parts 1500-1508), and the Department of Veteran Affairs Environmental Compliance Manual. The purpose of this EA is to analyze the environmental impacts of the Building 81 Seismic Replacement Project by evaluating the effects of the proposed action on existing resources at and around the American Lake campus and evaluating the potential cumulative impacts of this project in the context of projects either planned or currently being developed at the campus and in the immediate vicinity. NEPA requires the preparation of an Environmental Impact Statement (EIS) if the proposed action would result in significant environmental impacts. A Finding of No Significant Impact (FONSI) is issued if the project would not significantly affect the natural and physical environment or the relationship of people with that environment. This EA finds that the proposed action, including all proposed mitigation measures, would result in no significant environmental impacts and therefore a FONSI is appropriate.

The Veteran's Administration (VA) American Lake Veterans Hospital (ALVH) is located on the grounds of the Joint Base Lewis McChord military reservation, south of Tacoma, WA. The original campus was constructed in the mid 1920s and consisted of a group of Spanish Colonial Revival buildings in a park like setting along the shores of American Lake. A 93,747 gross square feet outpatient hospital (Building 81) was added in 1947 and currently houses the pharmacy, pathology lab, sterile processing, outpatient surgery, endoscopy, radiology, pulmonary/sleeps clinic and specialty clinics. Almost 90% of all patients visiting American Lake receive some services at Building 81. In 2008, the core of the American Lake campus was listed on the National Register of Historic Places and Building 81 was listed as a contributing structure.

In 2001, Building 81, along with a number of the other buildings on the ALVH campus, suffered damage from the 6.8 magnitude Nisqually Earthquake. Building 81 is considered an Extremely High Risk (EHR) building by the VA and is the only American Lake EHR building whose seismic deficiencies have yet to be addressed. In its current condition Building 81 poses a life-safety threat to patients and staff and would be rendered unoccupiable in a major earthquake. In addition to its seismic vulnerability, Building 81 is an aging structure with a number of other deficiencies and is not capable of meeting current VA standards for the delivery of medical services.

In order to continue to deliver world-class health care to veterans in the Puget Sound Region, the VA is proposing to build a new 70,000 gross square foot modern outpatient medical facility at ALVH that would house most of the programs currently located in Building 81. Improvements to parking and pedestrian safety are also proposed to support this project. The project will enable American Lake to serve as a regional disaster center, providing backup to the Department of Defense in the event of a natural disaster or state of emergency.

ALVH and the VA Puget Sound Health Care System began looking at options for addressing seismic deficiencies in Building 81 following a 1999 seismic risk assessment and the 2001 Nisqually earthquake. In January of 2007, ALVH submitted a request for funding to the

Office of Management & Budget that identified and evaluated several alternatives. Because of its historic significance, tearing down Building 81 and rebuilding on the same location was not considered a viable alternative. Alternatives to a No-Action Alternative included:

- Seismically upgrading Building 81
- Building a new outpatient medical facility
- Contracting out most outpatient medical services
- Relocating services to leased space elsewhere in the region

After consideration of numerous variables, the VA determined that building a new outpatient medical facility was the only alternative that would meet the goals for this project and the other three options were eliminated from further review. The VA then evaluated several possible locations for the new facility. The Preferred Alternative locates the new medical facility just southwest of Building 81 on a site currently occupied by the Canteen. This site was chosen for its proximity to the heart of the historic campus and relationship to existing medical services in Buildings 81, 2, and 3.

Under the Preferred Alternative, the new medical facility (Building 201) will be designed to meet the historical, natural and architectural setting of the surrounding campus and constructed to meet the requirements of a regional disaster center. The building will also be designed to meet or exceed LEED (Leadership in Energy and Environmental Design) silver standards and will include improvements in space planning, functional layout, patient privacy and wayfinding. All departments currently housed in Building 81 will move to Building 201 with the exception of ambulatory care and radiology services which will remain in the newer additions to Building 81. Building 81 will eventually be seismically updated for use as offices. The Canteen and five utility buildings will be demolished under this alternative. All services provided in the Canteen building will be relocated to Building 2 which is currently being renovated. Several of the utility buildings to be demolished are identified as contributing to the historic district.

The preferred alternative includes the expansion and redesign of the parking lot adjacent to Veterans Drive SW to the north, and the rerouting of Veterans Drive SW along the northern perimeter of the redesigned parking lot. The existing Veterans Drive SW between Curtis Drive and Engle Way will become a pedestrian walkway. There will be a central drop-off location and a covered walkway that will serve both Building 201 and Building 81.

Under the No-Action Alternative, Building 81 would continue to pose a life safety threat to patients, staff and visitors. The VA cannot continue to deliver medical services in a facility with this level of risk. Without the proposed project, the VA might be forced to discontinue most outpatient services at American Lake, which could lead to eventual closure of the campus. This could have long-term impacts on the viability of the historic district as a working medical facility. Under the No-Action Alternative, there would be no construction disruption, mature Douglas-fir and Oregon oak trees would not need to be removed, and no contributing structures within the designated historic district would need to be demolished. But there would also be no improvement to traffic flow, pedestrian safety and parking.

Under the Preferred Alternative, the seismic risk associated with delivery of medical services in Building 81 would be eliminated and outpatient medical services at American Lake would be delivered in a state of the art medical facility that could also serve as a regional disaster center. Veterans Drive in front of Buildings 201 and 81 would be turned into a pedestrian mall with traffic diverted around the parking lot on a new ring road. The existing parking lot would be expanded with eighty additional parking spaces. A central patient drop off circle and covered walkway would serve both Building 201 and Building 81. The unattractive Canteen building would be demolished and services relocated to a revitalized Building 2.

Since the Preferred Alternative includes the construction of a new building within a designated historic district and the demolition of several buildings listed as contributing to the historical significance of that district, VA entered into consultation with the State Historic Preservation Office (SHPO). SHPO has reviewed the draft plans for the proposed project and approved a memorandum of agreement that lists a number of required mitigation measures. These include phasing the project to maintain critical services, the long-term preservation and re-use of Buildings 2 and 81, documentation of all historic facilities prior to demolition, surveying and monitoring excavation areas for archeological resources, and development of an exhibit on the history of the American Lake Veterans Hospital and historic district. SHPO will also review final building plans for consistency with the agreement.

Other potential impacts associated with the preferred alternative include the removal of a number of mature trees, including several priority Oregon oak trees, a net increase in impervious surface, and short-term construction impacts to noise, air quality, transportation/parking, wildlife, and resident populations. Proposed mitigation measures include, maintenance of the vitality of the campus core, improvements to parking and pedestrian safety, improvements to the aesthetics of the parking lot and Veteran’s Drive, installation of rain gardens, landscaping, and establishment of a new grove of Oregon oaks.

Introduction

Background

The American Lake Veterans Hospital (ALVH) is part of the Veteran's Administration Puget Sound Health Care System (VAPSHCS), which also includes a major inpatient hospital and medical facility in Seattle and a number of community outpatient clinics. The ALVH is located south of the city of Tacoma in Pierce County, Washington, just south of the community of Lakewood. The hospital occupies a 351-acre site on the shore of American Lake in the NW corner of the 81,000-acre Fort Lewis Military Reservation, which is now part of the larger Joint Base Lewis-McChord (JBLM). The U.S. Department of Veterans Affairs (VA) was granted use of the property under a revocable lease agreement with the Department of Defense (DoD) in 1923. The DoD, in turn, leases the land from Pierce County. Figure 1 is a site vicinity map, and Figure 2 is a map of the American Lake Veteran's Hospital Campus.

ALVH is a multi-care facility that provides primary care services, ambulatory surgical services, blind rehabilitation services, substance abuse treatment, a 76-bed nursing home, a neuro-psychiatric facility, a 60-bed homeless domiciliary, vocational rehabilitation, a residential care program, post traumatic stress treatment, and a women's health clinic. The clinic serves over 12,000 enrollees assigned to primary care providers and provides a full array of medical services to over 30,000 patients a year from a five-county area in western Washington. ALVH has close ties to the medical facilities at JBLM and also provides teaching and research opportunities through its affiliation with the University of Washington Medical School.

The original campus was constructed in the mid 1920s and consisted of a group of Spanish Colonial Revival buildings in a park like setting along the shores of American Lake. In 1947, a large main hospital building was constructed on the site of the original administration building and designed to match the style of the earlier buildings. This building (Building 81) is a 93,747 gross square feet (GSF) building that is roughly H shaped. It is four stories tall along the central axis with a fifth story penthouse in the middle. On either end are wings extending perpendicular to the main axis in both directions that are three stories tall. A third, three-story wing extends out from the middle in the back. Since it was constructed, there have been a number of additions and renovations, including a large one-story addition to the north wing which was added in the 1990s. Figure 3 shows a picture of Building 81 shortly after it was constructed and a recent picture showing the north addition. Building 81 is considered an essential facility for the delivery of outpatient care for veterans in the Puget Sound Region and currently houses the pharmacy, pathology lab, sterile processing, outpatient surgery, endoscopy, radiology, pulmonary/sleep clinic, and specialty clinics. Almost 90% of all patients visiting American Lake receive some services at Building 81. The outpatient medical clinic is classified as mission critical by Veterans Health Administration (VHA) and Veterans Integrated Service Network (VISN 20).

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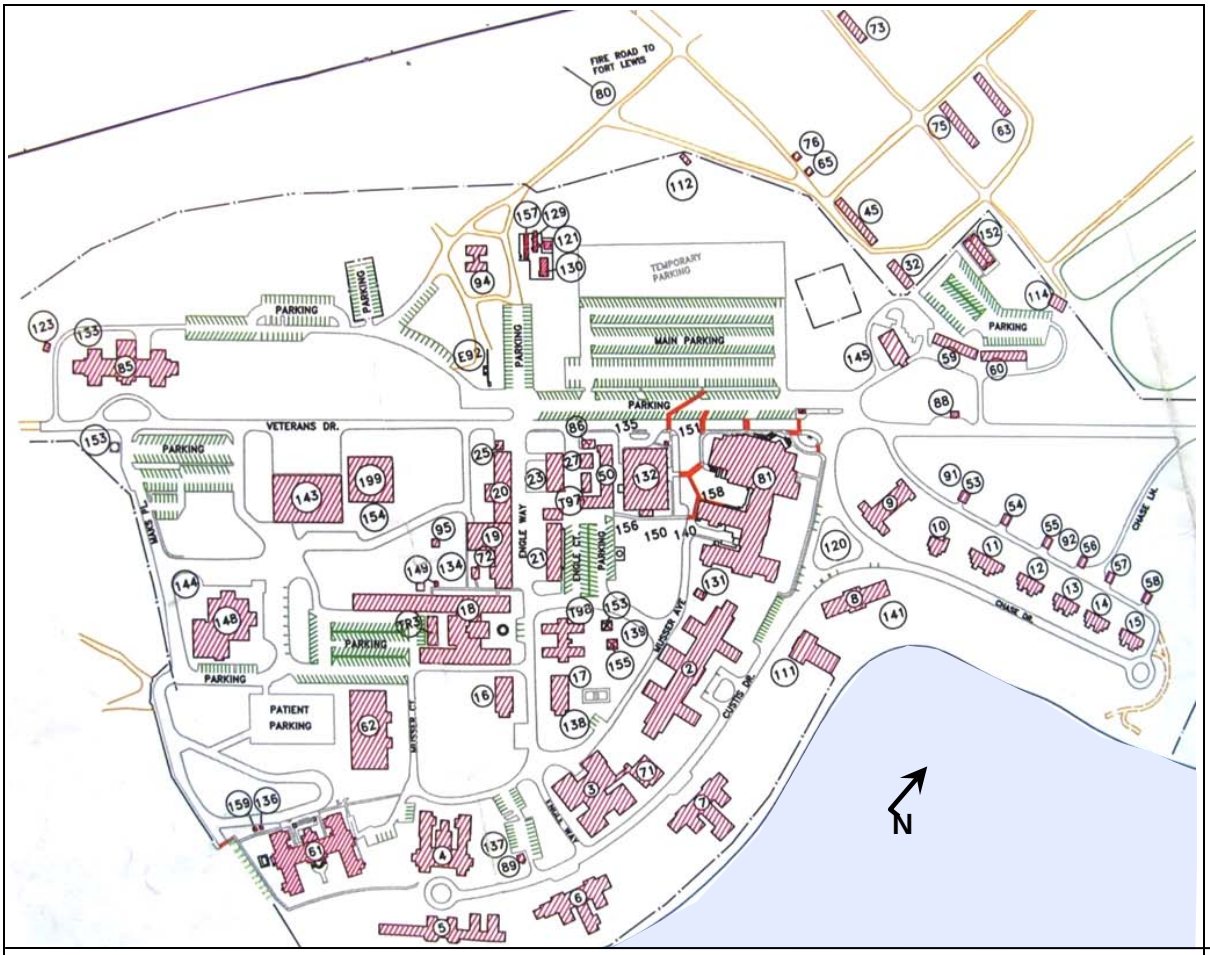
Figure1: Project Site Vicinity Map

VA American Lake Building 81 Replacement - Environmental Assessment



2	Nursing Home Care Unit	32	Storage	112	Storage
3	Kitchen/Dining Hall	39	Storage	114	Golf Club House
4	Domicillary	45	Storage	120	Flag Pole
5	Blind Rehabilitation	50	Maintenance Shops	123	Storage
6	FMS/ VA Police/ VASH/ Safety/ QI/ Women's Clinic	53-60	Garages	132	Canteen
7	Inpatient Mental Health	61	Outpatient Mental Health	142	Picnic Shelter
8	Administration Bldg	62	Exercise Hall	143	Linen Distr./ Stor.
9	Auditorium Bldg	63	Storage	145	Credit Union
10	Staff Quarters	64	Storage	148	Vocational Rehab
11-15	Duplex Quarters	71	Library	149	Materials Storage Shed
16	Social Work / Psychology & Home Base Care	72-74	Storage	150	Smoking Shelter
17	VISN 20 Admin Bldg	80	Storage	151	ATM
18	VRT/ CWT/ Medical Media	81	Ambulatory Care Building	152	Golf Course Maint.
19	Warehouse Annex	85	Audiology/ Dental/ NPM/	153	Gazebo
20	EMS Offices/ M&O/ Storage	88	VA Police	155	Party Pavilion
21	Warehouse	94	Storage	199	ISS Building
23	Boiler Plant	97	Storage	T97	Storage
27	M@O Offices/ Locksmith	111	Chapel	T98	Storage

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Figure 2: American Lake Campus Map

VA American Lake Building 81 Replacement - Environmental Assessment

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Figure 3: Building 81 in 1951 and 2009

VA American Lake Building 81 Replacement - Environmental Assessment

The 6.8 magnitude Nisqually Earthquake in 2001 was centered less than 10 miles west of the American Lake Campus and damaged a number of buildings on the campus, causing structural and non-structural damage to Building 81. It also heightened awareness of the vulnerability of the aging campus buildings to future earthquake damage. Building 81 currently has numerous seismic deficiencies that were identified in a study conducted by Degenkolb Engineers, Inc., in 2005. These include a concrete frame and unreinforced concrete masonry infill walls, insufficient strength of the wood roof, numerous corners with insufficient tensile strength, and unanchored fixtures. The following renovations and improvements have been identified as necessary to bring Building 81 up to current seismic standards and building codes:

- Add 8-inch thick reinforced concrete walls at several locations on the exterior and interior of the building that would extend from the foundation up to the attic structure.
- Install epoxy dowels that would connect the new reinforced concrete wall segments with the existing walls.
- Install concrete diaphragm ties at each corner location on all floors.
- Install wood blocking and framing anchors where the rafters connect to the concrete structure at the building perimeter.
- Brace all fluid and fire protection piping, suspended ceilings and lights, and all mechanical and electrical equipment heavier than 100 pounds.

The National Earthquake Hazards Reduction Program (NEHRP) initiated in 1978 and reauthorized in 1990 called upon the president to adopt standards for assessing and enhancing the seismic safety of existing buildings owned or leased by the government. In 1999, the VA developed an inventory of their facilities and assigned a seismic risk to each building. Building 81 ranked 45th nationally on the VA's list of Extremely High Risk (EHR) Buildings.

The American Lake campus is located in a high seismic activity zone, based on maps of earthquake shaping hazards prepared by the United States Geological Survey (USGS, 2008). Figure 4 is a map of the country with the location of all VA facilities and seismic risk categories redrawn from USGS spectral acceleration maps. Facilities that are located in high seismic activity zones are considered high risk (HR) simply by virtue of their location. Extremely high risk (EHR) buildings are located in areas of high or very high seismicity, classified as essential or critical facilities, constructed prior to 1977 and/or do not meet current seismic codes, and generally have greater than 150 inpatient beds. Building 81 meets all but the last of these criteria. American Lake had a total of seven EHR buildings and all the other EHR buildings on campus have undergone or are currently undergoing seismic rehabilitation. Building 81 is the only American Lake EHR building whose seismic deficiencies have yet to be addressed. The Uniform Building Code for minimum standards for designing earthquake-resistant structures has also been revised and Building 81 does not meet these new standards. In its current condition the building poses a life-safety threat to patients and staff.

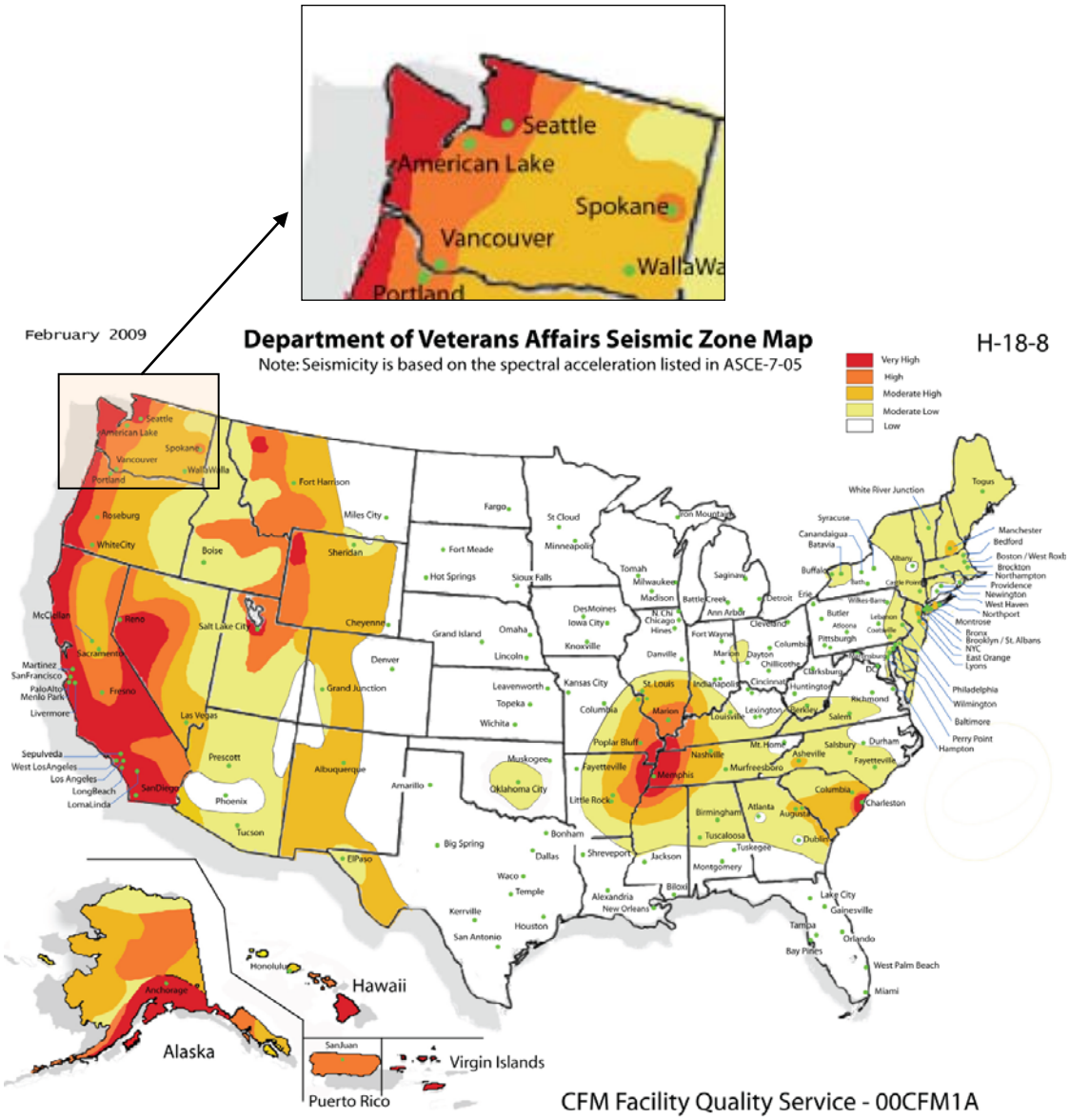

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Figure 4: Earthquake Hazard Zones

VA American Lake Building 81 Replacement - Environmental Assessment

The VA is required to have a plan of action to eliminate seismic risk in buildings deemed to be HR and EHR. Building 81 was assigned a VA Deficiency Category of 2, which is for buildings that might not collapse but would be severely damaged in a design earthquake[1]. The USGS has determined that earthquakes of magnitude 8 or 9 on the Richter Scale are possible in the Pacific Northwest. VA engineers have determined that in a design earthquake based on the redrawn USGS earthquake maps and the revised building code, Building 81 would sustain such severe damage as to be declared unoccupiable. Building 81 also does not meet the Immediate Occupancy performance objective of FEMA 310 (Handbook for the Seismic Evaluation of Buildings, 1998). In the event of a major earthquake, the potential for loss of life, limb and property to patients and employees would be considerable and the government would be liable. In addition, patients would have to seek health care elsewhere, which would likely overwhelm the other federal and civilian medical facilities in the area and prove very costly to the government.

The VA has proposed a major seismic renovation project for Building 81 once prior to the Nisqually Earthquake of 2001 and four times following the earthquake. Because funding was not provided, partial mitigation included moving 15 acute inpatient beds and associated staffing to Madigan Army Medical Center in 2004. The VA will have to discontinue outpatient services at American Lake as well if action is not taken soon.

The Facility Condition Assessment (FCA) Report process is used by the VA to evaluate the condition of its buildings and assigns scores of A, B and C to assets in excellent, good to fair condition and D and F to assets in poor to failing condition, respectively. A facility condition assessment report for Building 81 conducted in 2002 indicated a number of deficiencies in addition to the seismic issues. Several “D” ratings were noted. While the seismic deficiencies are probably the most pressing, other “D” ratings were given to the HVAC system and other mechanical systems, emergency electrical system, signage and wayfinding, accessibility, interior finishes, and built-in equipment. The building does not meet current building codes and is not currently capable of meeting VA standards for the delivery of medical services.

In 2008, 115 acres of the American Lake campus was listed on the National Register of Historic Places and Building 81 was listed as a contributing structure. In 2009, the VA commissioned a Preservation Plan for the American Lake campus to provide a framework for management and future development of the campus within this historic designation. Emphasis was placed not only on preservation of the historic buildings, but also on preservation of their contribution towards the core function of the campus in delivering

[1] A design earthquake is defined as “the ground movement that will be used in the calculation of the earthquake resistant design” (EERI Committee on Seismic Risk, 1984). It is derived from the level of seismic activity in the region, local geologic conditions, and a measure of acceptable risk. FEMA 310 defines a design earthquake as “an earthquake with a 2% probability of exceedance in 50 years with deterministic-based maximum values near known fault sources.” For this site, the design earthquake is a moment magnitude 7.0 with peak ground acceleration (PGA) of 0.54 g (acceleration due to gravity)

medical services to America's veterans. A campus Master Plan effort was also undertaken at the same time to develop a long-term vision for campus growth that incorporated the recommendations of the Preservation Plan. The American Lake Veterans Hospital Design Advisory Committee was set up to review new development for conformance with both the Master Plan and Preservation Plan.

The VA anticipates a need to provide an increased level of services at ALVH in the coming years. Along with this anticipated increase in patients, will be a need for additional physical space and an associated increase in parking demand. A recent parking study (Heffron, 2009) projected a need for over 200 additional parking spaces in the north portion of campus by 2017. There is also concern over pedestrian safety as patients and visitors must now cross Veterans Drive SW to access Building 81 and the rest of the campus from the main parking lot.

In order to continue to deliver world-class health care to veterans in the Puget Sound Region, the VA is proposing to build a new 70,000-gross-square-foot modern outpatient medical facility at ALVH that would house most of the programs currently located in Building 81. Some services would remain in the newer portions of Building 81. Improvements to parking and pedestrian safety are also proposed to support this project.

The National Environmental Policy Act (NEPA) requires Federal agencies to evaluate the environmental impacts of their proposed actions to the natural and human environment before deciding to fund an action. This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President's Council on Environmental Quality regulations to implement NEPA (40 CFR Parts 1500-1508), and the Department of Veteran Affairs Environmental Compliance Manual. The VA is required to consider potential environmental impacts before funding or approving major actions and projects. The purpose of this EA is to analyze the environmental impacts of the Building 81 Seismic Replacement Project by evaluating the effects of the proposed action on existing resources at and around the American Lake campus and evaluating the potential cumulative impacts of this project in the context of projects either planned or currently being developed at the campus and in the immediate vicinity. An Environmental Assessment is used to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). This EA finds that the proposed action, including all proposed mitigation measures, would result in no significant environmental impacts and therefore a FONSI is appropriate.

Purpose and Need

The VA has an immediate need to address the life safety threats to patients and staff posed by the seismic vulnerability of Building 81 and to do so in a way that assures veterans uninterrupted access to first-class medical services. In the event of an earthquake, Building 81 is expected to sustain severe damage and become unusable. The seismic risk has already resulted in the relocation of inpatient services to facilities outside of the ALVH campus and may result in outpatient services being discontinued as well. Building 81 is over 60 years old and, in addition to its structural vulnerability, is not designed to meet current health care delivery standards and in need of numerous updates. With an anticipated increase in demand for veteran's health services in the Puget Sound Region over the next ten years, the VA needs to address Building 81's seismic vulnerability and age in a way that allows for future expansion of services.

The project is also needed to enable American Lake to serve as a regional disaster center, providing backup to the Department of Defense in the event of a natural disaster or state of emergency. In addition to supporting DoD, the VA also has agreements with local, county, state and other federal agencies to support Emergency Preparedness. Building 81 is currently unable to provide this support due to its age, lack of appropriate infrastructure, and seismic vulnerability.

The purpose of this project is to meet the needs identified above. Alternatives considered for fulfilling these needs are discussed in the following section.

Alternatives

Development of Alternatives

The NEPA implementing regulations require that a range of reasonable alternatives be evaluated including the “No-Action Alternative.” Reasonable alternatives are any available alternative that meets the project purpose and need. The overriding goals for developing and evaluating alternatives for the Building 81 Seismic Replacement Project include respecting the needs of veterans and their families, accommodating current and future healthcare needs of veterans served by the American Lake center, and preserving the natural and historic significance of the site.

ALVH and the VA Puget Sound Health Care System began looking at options for addressing seismic deficiencies in Building 81 following a 1999 seismic risk assessment. A proposal to seismically retrofit Building 81 was submitted to the Capital Asset Management Services (CAMS) Division of the Veterans Administration Central Office (VACO) before the Nisqually Earthquake of 2001, and several times in the years after the earthquake. Following a May 2006 proposal for a seismic retrofit, the CAMS office replied with a request for a proposal for a new 70,000 square foot building. The VA Central Office also completed a cost analysis which suggested that new construction rather than retrofitting might provide the best return on investment for the VA. The revised proposal for construction of a new medical facility was submitted for funding in August of 2006.

In January of 2007, ALVH submitted an Exhibit 300 VA Acquisition Application of 2009 request for funding to the Office of Management & Budget. This application documents the decision-making pathway the VA undertook in identifying and evaluating alternatives to address the seismic deficiencies in Building 81. The identification and review of alternatives focused on meeting VA missions and objectives, particularly with regard to delivery of medical services and amelioration of seismic risk. Another major consideration was the ability to continue to provide medical services to the thousands of veterans using Building 81 services with a minimum of disruption.

Several alternatives to the No-Action Alternative were identified. These included:

- Seismically upgrading Building 81 to meet earthquake safety codes.
- Building a modern outpatient medical facility to accommodate services currently provided in Building 81.
- Contracting out all medical services currently located in Building 81.
- Leasing space elsewhere in the region and relocating services to the leased space.

The review of these alternatives relied on existing reports such as the 1999 VA seismic rating, the facility condition assessment report of Building 81 in 2002, and the Degenkolb seismic study in 2005. Additional research included a market analysis for out-sourcing medical services, an analysis of lease space availability and costs, a Space and Equipment Planning Study (SEPS II) analysis for new construction, and a comparison of initial and life cycle costs for the identified alternatives. The Life Cycle Cost analysis indicated that contracting out services would be the most expensive and that seismic renovation would cost considerably more than new construction.

Alternative	Life Cycle Cost (millions)
No Action	$28.7
Seismic Renovation	$74.0
New Construction	$47.0
Contract Out Services	$180.7
Lease Space	no data

Alternatives for remedying Building 81's seismic deficiencies had to be evaluated in light of short- and long-term planning initiatives within the greater VAPSHCS region, ongoing activities at American Lake, and future needs for expansion of services. Any relocation of services, whether temporary or permanent, would require some form of accommodation elsewhere on campus or within VAPSHC. The designation of Building 81 as a contributing structure within a designated historic district played an important role in the evaluation of alternatives. The project triggered development of a Preservation Plan for addressing future activities within the historic district and a Master Plan to guide long-term development of the entire ALVH campus. The Preservation Plan placed emphasis not only on the preservation of Building 81 as an important historic structure but also on preservation of its contribution towards the core function of the campus. Because of its historic significance, tearing down Building 81 and rebuilding on the same location was not considered a viable alternative.

In addition to its primary role of providing medical services to veterans, the ALVAH also performs several ancillary roles. These include providing teaching and research opportunities through the University of Washington Medical School, providing medical support services to the DoD and FEMA in the event of a disaster or emergency, and partnering with outside health care groups to provide additional services. Maintenance of these support roles was an important consideration.

The following laws, regulations, agreements and memorandums of understanding were taken into account in developing and evaluating the alternatives to be considered in addressing the seismic deficiencies in Building 81.

Environmental
The National Environmental Policy Act
Clean Air Act
Clean Water Act
Coastal Zone Management Act
Pollution Prevention Act
Endangered Species Act
Toxic Substances Control Act
Migratory Bird Act
Bald Eagle Management Act
Energy Independence and Security Act
Resource Conservation and Recovery Act
Seismic
Executive Order 12699 – Federal Buildings Designed and Constructed to Current Seismic Standards
Executive Order 12941 – Standards of Seismic Safety of Existing Federally-Owned or Leased Buildings
VHA Directive 2005-019 – Seismic Safety of VHA Buildings
VA's list of Extremely High Risk Building's
Cascadia Regional Earthquake Workgroup Earthquake Hazard Plan
Historic Preservation
National Historic Preservation Act of 1966
Executive Order 11593 – Protection and Enhancement of the Cultural Environment
Archeological and Historic Preservation Act of 1974
VA's Office of Cultural Resource Management Historic Preservation Plan
Washington State Historic Preservation Office Preservation Plan
Building Codes
International Building Code – IBS 2003
Public Buildings Cooperative Use Act of 1976
VA Planning
VISN20 and VAPSHCS CARES Market Plan and 5-Year Capital Plan
Memorandums of Agreement, etc.
VA/DoD Sharing Agreements, Training Affiliations, Joint Demonstration Projects and Joint Incentive Fund Projects
MOU for VA/DoD and other agencies for Emergency Preparedness
MOU for VA/DoD for Transition support for Returning OIF/OEF Service Members

After consideration of all of the above, the VA determined that seismically retrofitting Building 81, contracting out services or leasing space would not meet the goals for this project and they were eliminated from further review. The reasons for the elimination of these alternatives are discussed under the section Alternatives Considered but Eliminated After Initial Review. New Construction was chosen as the Preferred Alternative which best met the purpose and need of the project. Under this alternative, a new 70,000 GSF multi-story ambulatory medical building (Building 201) would be constructed at the American Lake campus and most Building 81 services would be relocated to the new building. With the exception of the No-Action Alternative, New Construction had the lowest life cycle cost. It would keep the program intact at the campus and cause the least disruption to services. It would allow for services to be provided in a modern first class facility that could also serve as a regional disaster center for the surrounding communities. The VA could continue to honor its agreement with the University of Washington to provide teaching and research opportunities. In addition, a new building would allow for future expansion of services to meet anticipated increases in demand.

Once the New Construction Alternative had been identified as the Preferred Alternative, the VA began to look at options for siting a new building (Building 201) on the campus. Tearing down Building 81 and constructing a new building at the same location was not feasible because of the historic significance of Building 81 and the need to provide uninterrupted services. The VA and the Architect/Engineering team worked with administrators, staff, and patients to develop goals for a new facility. The following goals were identified:

- Respect the needs of veterans and their families
- Accommodate current and future healthcare needs of veterans served by the American Lake Center
- Preserve the natural and historic significance of the site
- Improve pedestrian safety and accessibility at the campus
- Use LEED principals and strategies to increase environmental responsibility
- Design a facility capable of providing state of the art healthcare and healing

Two possible locations were identified for a new medical facility: a North Alternative and a South Alternative. Figure 5 shows the potential north and south building locations. The North Alternative located Building 201 in the parking lot north of and across Veteran's Drive from Building 81 near the entrance to the campus. The South Alternative located Building 201 to the southwest of Building 81 at the current location of the canteen. These two locations were the only locations on campus that were close enough to Building 81 and other services to be considered reasonable possibilities. Both of these locations were identified in the Master Plan as potential building locations and both will likely be occupied eventually as the campus expands to meet increasing demand. Building 201 would be essentially the same under the two alternatives and improvements to the parking lot and Veteran's Drive were proposed for both locations.

Work sessions were convened to review the two locations, one with the American Lake User Group and another with the Project Steering Committee. Each group was asked to discuss and rank the two alternatives using a set of evaluation criteria. The groups debated the two sites until a consensus was reached. Results from the User Group work sessions were

shared with the Steering Committee. Both groups preferred the South Alternative to the North Alternative, primarily for its proximity to the heart of the historic campus and relationship to existing medical services in Buildings 81, 2, and 3. The criteria and results of the Steering Committee evaluation are shown below.

SITE EVALUATION CRITERIA American Lake Steering Committee Results		**Preferred Location**
PATIENT EXPERIENCE		
Vehicular Access	How intuitively can a veteran entering campus find and access parking?	South
	How intuitively can a veteran entering campus find and access building drop offs?	North
Pedestrian Access	How safely can a veteran move from parking to the new site?	North
	How safely can a veteran move to/from the site to Building 81?	South
	How safely can a veteran move from the site to the rest of campus?	South
CAMPUS ENVIRONMENT		
Campus Location	Does the site location meet the campus medical program needs?	South
Connection to Nature	Does the site provide opportunities for veterans to connect with nature?	—
Expandability	Does the site offer options for easy expansion?	South
BUILDING RESOLUTION		
Constructability	Which site most readily facilitates the current project schedule?	North
	Which site requires the lowest initial capital cost?	North
Service	How easily/efficiently can outside services access the site?	South
	How easy/efficient is service access from the site to the rest of campus?	South
Stewardship	Which site is the best first step in achieving the VA's mission and Master Plan goals?	South
INTANGIBLES		
	Which site opportunity evokes a positive, instinctive response?	South

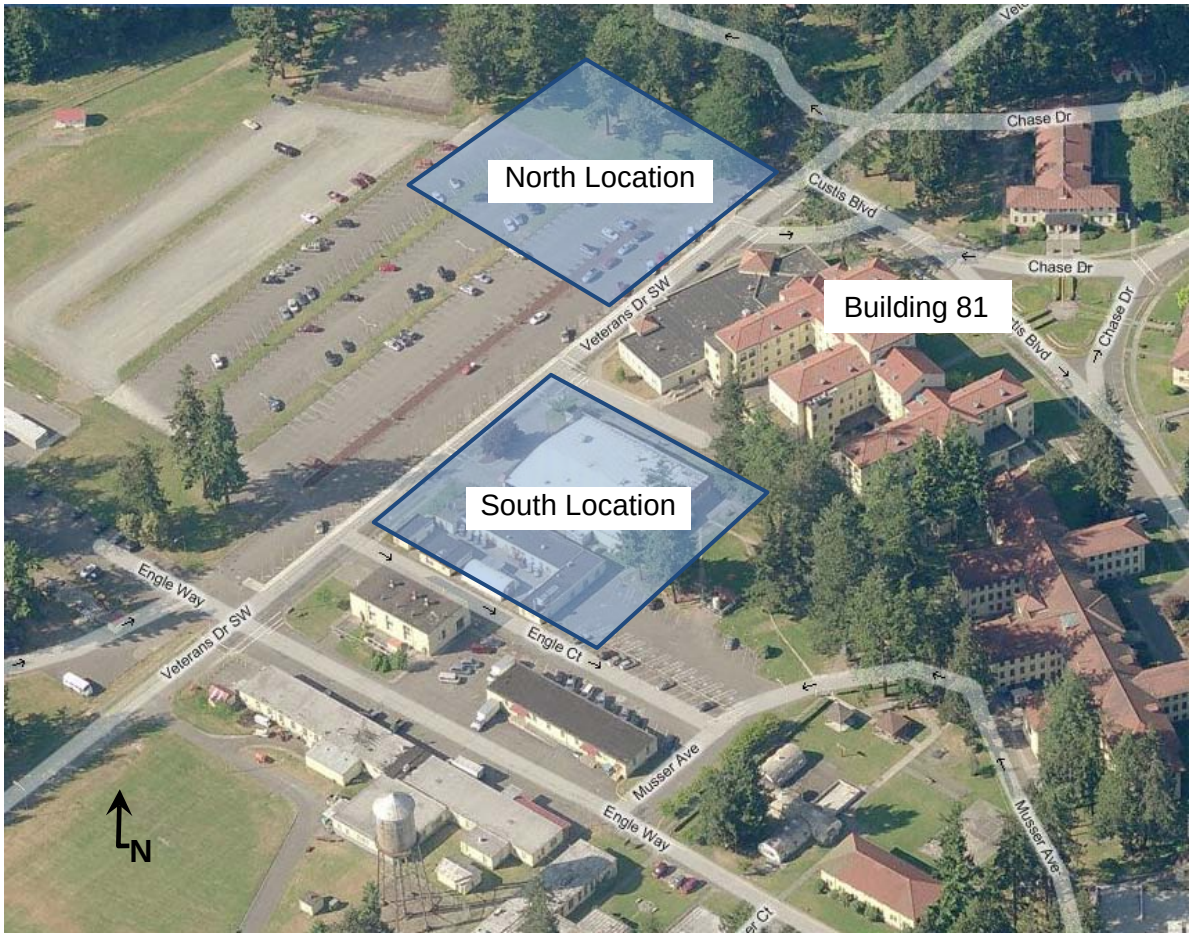

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Figure 5: North & South Building Location Alternatives

VA American Lake Building 81 Replacement - Environmental Assessment

Alternatives Considered but Eliminated After Initial Review

The following alternatives were eliminated from further review after preliminary evaluation indicated they would not adequately address VA goals for this project.

<u>Seismic Renovation</u>

The seismic renovation and correction of life safety code violations in Building 81 was one of the first alternatives considered, since it directly addressed the core problem and would allow the existing programs to remain in Building 81.

Over 80 percent of Building 81, or approximately 76,000 GSF, would require seismic renovation. In addition to the seismic renovations, improvements would be needed to mechanical systems, built-in equipment, and interior finishes before the building could meet current VA standards and building codes. Since it would make little sense to undertake the

seismic renovations without also correcting other critical deficiencies, these improvements would need to be carried out simultaneously for cost effectiveness and efficiency.

The deficiencies of this alternative include the fact that the seismic renovation of Building 81 requires a significant outlay of funds with no appreciable improvement in space planning, functional layout, adjacencies, patient privacy, wayfinding, or customer satisfaction. All of these elements have been identified as currently deficient in Building 81. Building 81 is over 60 years old and simply not designed to accommodate modern health care delivery standards and outpatient needs. No reasonable amount of renovation could bring the building up to modern standards. Costs for seismic renovations have risen dramatically over the last several years, nearly doubling the cost of this alternative since it was initially proposed. This alternative also results in no new space, and the VA anticipates increased patient loads and associated staff increases in the immediate future which would not be addressed under this alternative.

The need to provide for uninterrupted patient services would make this alternative very difficult. Some services could potentially be temporarily relocated to other locations on campus, but a number of services could not be reasonably relocated and would need to remain during construction. Overall, construction in an occupied building, particularly one which is delivering medical services, would be difficult to accomplish without major disruptions to patient services, inconveniences to staff and patients, and significant additional costs.

Even after seismic retrofitting and substantial renovation, Building 81 could not be used as a regional disaster center because it still would not meet the criteria for this type of facility. For all of the above reasons, the VA has determined that seismic renovation of the existing building would not meet the current or projected needs of the American Lake Veteran's Hospital or be cost effective over the long-term; hence, this alternative was eliminated from further review.

Contract-Out Services

Under this alternative, 100% of medical services now provided at American Lake would be contracted out. All services currently provided in Building 81 or dependent upon current Building 81 services would be relocated to other facilities in the VAPSHCS service area. These services include primary care, emergency services, woman's health, geriatric, specialty care of cardiology, dermatology, gastroenterology, podiatry, urology, ambulatory surgery and recovery, ancillary services for pharmacy, radiology, laboratory and pathology, and diagnostic services for EKC, EEG, ECG, CT, and dexascan. The benefit of this alternative is that these medical services would then be provided at a safe facility that does not endanger the life or safety of patients and staff.

In order for this alternative to work, the existing 30,000 plus patients a year that currently receive services at Building 81 would need to be accommodated in other VA or DoD facilities. Unfortunately, there is no available space at the VA Seattle campus, the current or future Community Based Outpatient Clinics or Madigan Army Medical Center to support the current or anticipated volume of patients and workload. In fact, there is not sufficient capacity in the entire civilian local, county or state, or other federal agency facilities combined to handle this workload. Even if there was capacity, contracting out services is prohibitively expensive as indicated in the initial life cycle cost analysis. Existing agreements

and memorandums of understanding with DoD and other affiliates for providing services, training, and research could not be honored under this alternative.

One of the goals of the American Lake Veteran's Hospital Preservation Plan is to maintain a 21st Century medical facility for veterans within the historic context of the full VA lease extent site. Removal of these core medical services from American Lake would seriously limit the viability of the campus as a whole and weaken the effectiveness of remaining programs. This alternative would likely lead to closure of the American Lake facility. It would be extremely difficult to preserve the historic nature of the campus under a scenario of reduced services or closure. This option was eliminated because of the fact that there is currently no capacity in the civilian or military community to support the anticipated volume of patients or workload, the prohibitive cost associated with contracting out the services, and the need to maintain the historic integrity of the campus.

Lease Space

The possibility of leasing space somewhere within the VAPSHCS service area and moving the Building 81 services to a leased space was briefly evaluated. The VA looked at available government excess properties, contacted the General Services Administration for leasable space and conducted market research on available commercial spaces. No excess government space was identified that could reasonably accommodate the services. Lease rates and availability fluctuate with market conditions so the cost for this alternative could vary dramatically depending on the year and where space was available. There is also the uncertainty of lease renewals. But, more important is the fact that leasing space would act to fragment the program and would not allow for programs to effectively integrate, having a negative impact on efficiency and effectiveness. Because of ALVH's location, any leased space would likely be some distance from the campus. Similar to the contract out alternative, leasing space elsewhere in the region would probably lead to the eventual closure of the American Lake campus as an outpatient facility. This option was not considered a viable alternative.

New Construction – North Alternative

Under the New Construction – North Option, a new 70,000 GSF building (Building 201) would be constructed to accommodate most of the services currently provided in Building 81. Building 201 would be located north of Building 81 at the northeast corner of the parking lot at the entrance to the campus, with its front entrance directly across from Building 81's front entrance. The benefits of this option were that it would not require any demolition of existing structures or relocation of existing facilities prior to construction and would provide for easier construction access and less disruption during construction. The building would be located outside the historic district.

A major disadvantage of this option, however, is that it is further removed from the rest of campus. Both the American Lake User Group and the Steering Committee felt that the South Option provided a stronger connection to the central campus and better access to medical and support services in Buildings 81, 2, and 3. Since core services will be spread among these four buildings, it is important that patients can easily access each building from the others.

Under the North Alternative, the new building would be located in a portion of the existing parking lot, eliminating existing and potential parking spaces. A future parking supply needs

assessment (Heffron, 2009) concluded that approximately 230 additional parking spaces would be needed to service the north portion of the campus by 2017. With redesign and expansion of the parking lot, spaces lost to the building footprint could be replaced; but there would not be sufficient space available to allow for more than a few additional spaces. The Master Plan for the campus anticipates an eventual need for a parking structure on campus, but this is not likely to be funded for a number of years. Parking shortages, therefore, would occur almost immediately upon completion of Building 201 under the North Option. This option also removes the surface parking that is closest to Building 81, requiring patients to walk further to get to Building 81.

Another problem with this alternative is that it is dependent on construction of the ring road, funding for which is not included in the approved funding for Building 201. If the ring road were not to get funded, locating the new medical facility on the opposite side of Veteran's Drive from Building 81 and the rest of campus would result in a greater pedestrian hazard then currently exists as veterans and their families cross Veteran's Drive between the main campus and Building 201. With Building 201 on the south side, even if the ring road were not funded, options would exist to make some improvement to pedestrian safety.

While the North Alternative had some advantages, particularly with regard to maintaining historic structures and ease of construction, the dependence on funding for the ring road, the inability to mitigate a predicted short-term parking shortage, and the location outside the main campus core eliminated this alternative from further consideration.

Alternatives Retained for Detailed Analysis

The development of alternatives for addressing the Building 81 seismic deficiencies spanned a number of years and involved considerable research and discussion between VA administrators, American Lake staff and patients, and the design team. In the end, two alternatives were identified for further evaluation: Alternative 1: No Action, and Alternative 2: New Construction – South Option which is the Preferred Alternative.

Alternative	Name	Description
Alternative 1	No Action	Maintain the status quo
Alternative 2	New Construction – South Option	Construct a new building to accommodate services currently provided in Building 81 on the south side of Veteran's Drive

<u>Alternative 1: No-Action</u>

Under NEPA, all projects must include the alternative of taking no action, against which all other alternatives are compared. Under the No-Action Alternative, Building 81 would remain seismically at risk and noncompliant with FEMA seismic standards and International Building Codes for the region. The outpatient services currently housed in Building 81 would continue to operate out of this location, and no new medical facility would be built. The life and safety of patients and staff would be at risk in the event of an earthquake, violating the VA's goals

of ensuring that VA staff have decent working conditions, as well as failing to meet VA goals for maintaining and improving capital assets. The building would be out of compliance with current building codes and FEMA seismic standards. Other deficiencies in Building 81, in addition to the seismic issues, would still need attention and the overall condition of the building will continue to deteriorate.

In keeping with the Preservation Plan goals, Building 81 would continue to function as an integral part of the campus and no historic structures would be removed. There also would be a considerable short term cost saving benefit. However, the risks to the life and safety of patients and staff, and the resulting liability to the VA were deemed to outweigh these benefits and to constitute an unacceptable risk. Further this alternative does not address the anticipated need for expansion of services at the American Lake facility and the fact that Building 81 is not designed to accommodate modern health care delivery standards and outpatient needs. Building 81 would also not be functional as a regional disaster center, resulting in a shortage of emergency service facilities in the region.

Also under the No-Action Alternative, anticipated increases in patient loads in the coming years would not be addressed and there would be no improvements to parking, traffic, and pedestrian safety at the campus. The existing pedestrian safety hazard of patients having to cross Veteran's Drive to access Building 81 from the parking lot would not be addressed. Parking capacity would remain the same, and a parking shortfall is likely to result over the next ten years.

Alternative 2: New Construction – South Alternative (*Preferred Alternative*)

The VA identified the New Construction – South Alternative as the Preferred Alternative for meeting the immediate and long-term goals of addressing the seismic deficiencies in Building 81 and providing first class medical care to veterans at the American Lake Veteran's Hospital.

The Preferred Alternative consists of constructing a new 70,000 GSF multi-story ambulatory medical building (Building 201) west of Building 81 where the Canteen is currently located. Under this alternative, medical services would be located in a seismically sound building that corrects life safety code violations. Building 201 will be constructed to meet the requirements of a regional disaster center, with a reinforced exterior, and backup electrical, water, and heating systems. The building will be designed to meet or exceed LEED Silver Standard, which will provide long-term energy savings from efficient heating, cooling, and lighting. The new building will also include improvements in space planning, functional layout, patient privacy, and wayfinding. Under this alternative, most Building 81 services will be relocated to Building 201 with ambulatory care and radiology services remaining in the newer additions to Building 81. Departments that will be relocated to Building 201 include Pharmacy, Cardiovascular and Specialty Clinics, Pulmonary Medicine, Surgical Services, Digestive Diseases and Endoscopy, Pathology, Supply Processing and Distribution, and Social Work Services. The Canteen would be relocated to Building 2 which is currently being renovated.

The location for the new outpatient medical building is shown in Figure 6. As presented in the Development of Alternatives section, this location was chosen because it is in the center of the campus, proximate to Buildings 81, 2, and 3 and other core campus services, and not dependent on funding for the ring road to be viable. This option also fit best into the long-term campus Master Plan and allowed for an increase in available parking. However,

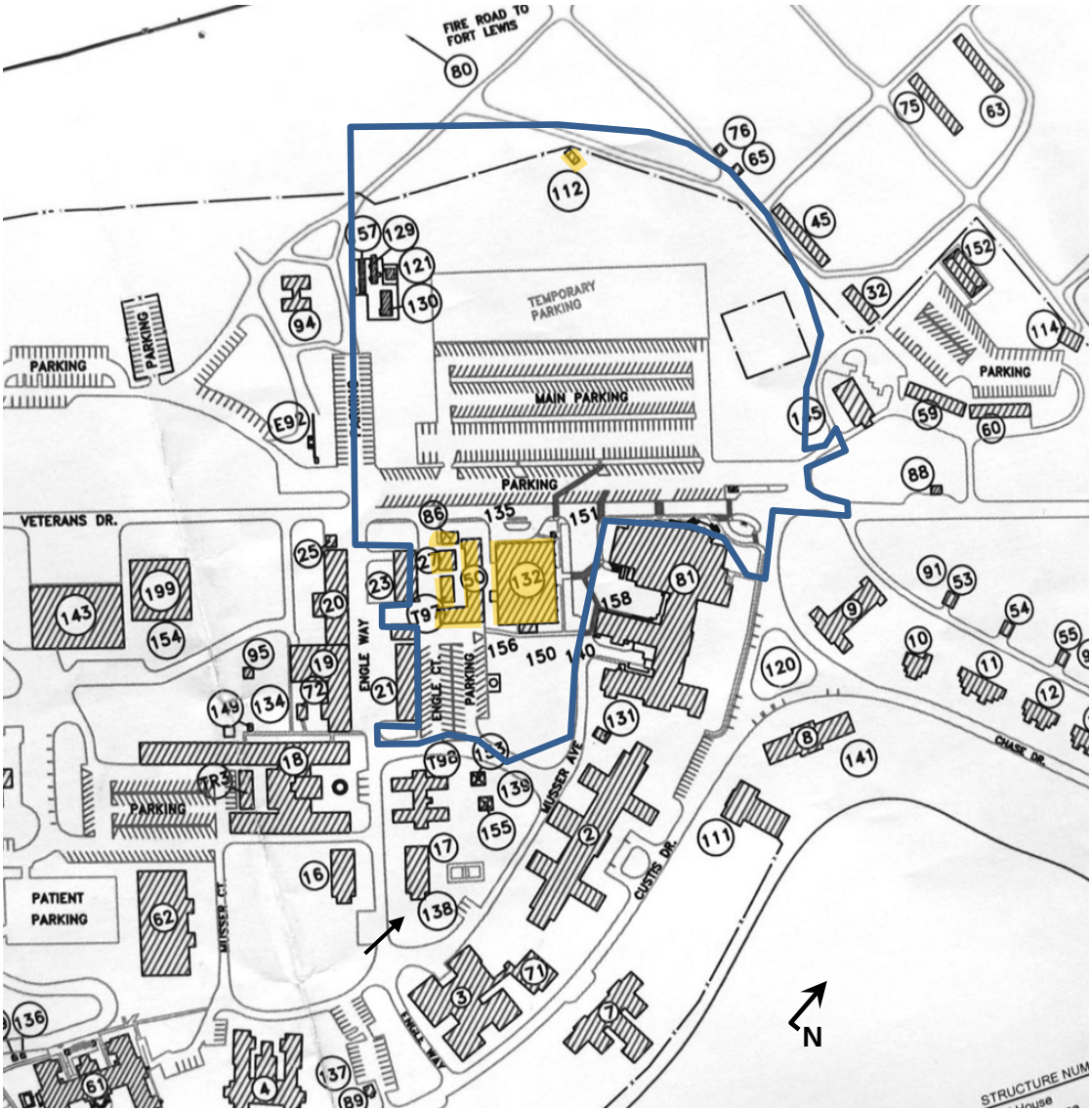
several buildings currently exist at this location that will need to be demolished before Building 201 can be constructed. Building 132, the Canteen, is the largest of these buildings. It is a one-story rectangular building of approximately 13,000 square feet that provides patients, staff, and visitors a place to purchase food and congregate. The Canteen is about 30 years old and does not match the historic character of the campus. West of the Canteen are a series of utility shops, warehouses and other service buildings, some of which date back to the earliest stages of campus development and are considered historic. A total of six buildings and a few minor structures will be removed under this alternative. The historic significance of the buildings is discussed under the Cultural Resources section.

Building 201 Description

Building 201 will be designed to meet the historical, natural, and architectural setting of the surrounding campus. The scale and proportions of the new facility will be designed so as not to overpower the existing buildings, and elements of the existing architectural style will be carried forward in the design of the building. The Washington Department of Archaeology and Historic Preservation will review the final design for consistency with the historic district.

Building 201 will be oriented with the main entrance facing northwest to the new Veteran's Drive pedestrian walkway and patient drop-off area. A southeast entrance will provide easy access to other campus buildings. The building will be constructed with two full floors, a partial basement, and a partial third floor to house the mechanical systems. In the center will be a lobby that extends up through both floors with a skylight to provide natural light. The first floor lobby will serve as a central gathering space for veterans and visitors. A garden area will extend southeast from the lobby between two wings.

One of the reasons that building a new facility was the Preferred Alternative was that it allowed for functional improvement in the layout of the departments. In designing Building 201, the architects sized each department based on its ideal functional layout and then fit the departments together based on desired adjacencies to arrive at the final building shape. Leftover spaces became lobbies and gardens. Services that receive the most use will be located on the first floor with less-used services on the second floor.



Project footprint

Buildings to be demolished

Figure 6: Preferred Alternative Project Footprint

VA American Lake Building 81 Replacement - Environmental Assessment

The VA is committed to sustainable design, and the building will attain Silver and possibly higher LEED Certification. Under a separate project, geothermal well fields are being installed under the north parking lot and in the center of campus. The well fields will support a ground source heat pump which will provide efficient heating and cooling to Building 201 and, other campus buildings as well. Solar hot water collectors will provide much of the hot water for Building 201. The building will use active chilled beams for cooling and radiant floor heating for peripheral spaces. Highly efficient insulation, glazing, and external shading will prevent heat and cooling losses. The design incorporates the use of local or regional materials and recycled materials. Portions of the roof will be designed as “living roofs” to further moderate building temperature and provide stormwater detention. Rain gardens will collect and infiltrate roof runoff.

Since Building 201 will be used as a regional disaster center, the design incorporates redundant electrical systems, generator fuel storage, and backup water storage tanks. The building has also been designed to meet a number of physical security criteria.

Parking, Road, and Site Improvements

The Preferred Alternative includes the expansion and redesign of the parking lot adjacent to Veteran’s Drive SW to the north, and the rerouting of Veteran’s Drive SW along the northern perimeter of the redesigned parking lot. The existing Veteran’s Drive SW between Curtis Drive, and Engle Way will become a pedestrian walkway. Rerouting Veteran’s Drive SW along the northern perimeter will allow patients, staff, and guests the ability to access the new medical facility, Building 81 and other campus locations without having to cross a roadway. There will be a central drop-off location that will serve both Building 201 and Building 81. A covered walkway will extend from the drop-off area to Building 201. Under the current condition, there is a traffic hazard crossing Veteran’s Drive SW and the potential for trip and slip hazards at sidewalk drop-offs. Figure 7 shows site improvements under the preferred alternative.

Under the proposed project, the parking lot behind the Canteen would be eliminated; but the north parking lot would be expanded and redesigned to accommodate additional parking. A total of 80 new spaces will be available following construction. The stormwater system for the parking lot, roads and walkways has been designed to meet federal and state guidelines for flow control and water quality treatment. Interceptor swales, rain gardens and stormwater filter vaults will be incorporated into the parking lot. Subsurface infiltration pipes will infiltrate runoff from larger rain events. Despite a net increase in impervious surface, there will be no increase in stormwater runoff.

Phasing

Because there are existing structures and uses at the preferred location of the new facility, development must be phased to accommodate relocations and demolition. The following activities must occur in sequence in order to complete the Preferred Alternative.

- Complete seismic upgrades and renovations of Building 3 so it can offload services currently located in Building 2
- Consolidate services, vacate Building 2, and vacate some services at the Building 201 construction site
- Complete a seismic upgrade of Building 2 for relocation of the Canteen, new store, and Museum on Level 1; expansion of the Eye Clinic and Blind Rehab on Level 3
- Demolish Canteen and utility buildings
- Construct new ring road, parking, and utilities
- Construct Building 201

Construction of Building 201 cannot commence until rehabilitation of Building 2 is sufficiently complete, so that the Canteen can be relocated and the existing structures demolished.

Future plans for Building 81 include seismically retrofitting the balance of Building 81 for use as office space. A seismic retrofit of Building 81 for office space would not be as costly as seismically retrofitting Building 81 as a medical center and could be undertaken when the building was vacant. The combined use of the new Building 201, a renovated Building 2, and a renovated Building 81 will accommodate anticipated increases in patient volume and associated staffing requirements.

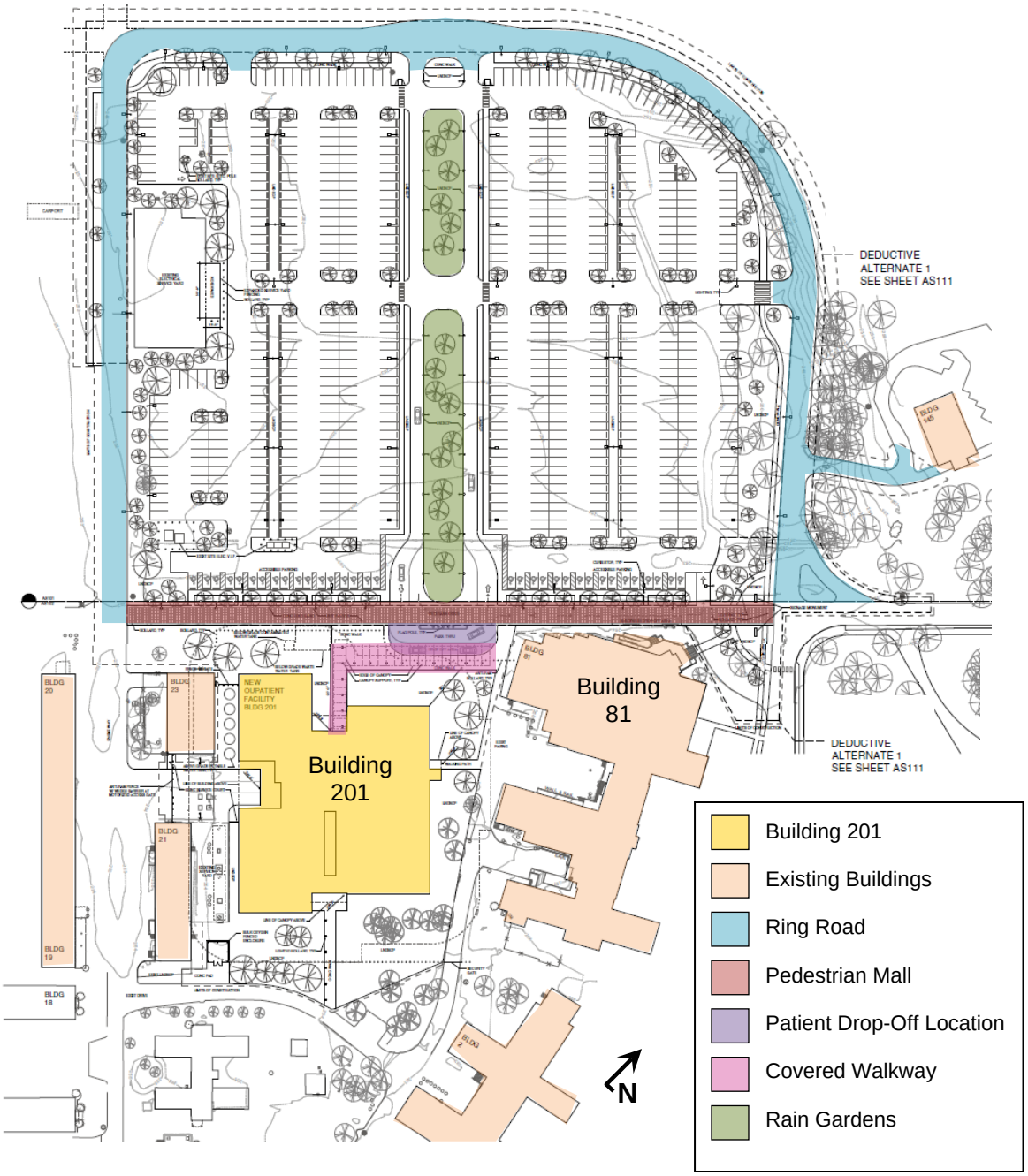


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Figure 7: Preferred Alternative Site Plan

VA American Lake Building 81 Replacement - Environmental Assessment

Affected Environment and Environmental Consequences of the Alternatives

In this section, the project alternatives are evaluated for their potential to "significantly" impact the physical, biological, cultural, and human environment. According to the NEPA Regulations adopted by the President's Council on Environmental Quality (40 CFR 1500-1508), the term "significantly" is based on the criteria of context and intensity (40 CFR 1508.27). Impacts can be either beneficial or detrimental; however, NEPA is primarily concerned with detrimental or adverse impacts. Table 1 is a summary of anticipated impacts and mitigation measures. The table lists impact levels, attributes, and mitigation measures under the two alternatives for each environmental element. Impacts are identified as none, minimal, moderate, or severe with regard to their intensity. Minimal impacts are often short-term or of very low intensity, and require little or no mitigation measures. Moderate impacts have a greater potential for either adverse or beneficial consequences and mitigation measures may be required to offset adverse impacts. A severe impact might either require significant mitigation or could not be discounted even through mitigation measures. A detailed description of each environmental element follows the table and includes a description of the affected environment and the potential consequences to that element under both the Preferred Alternative and the No-Action Alternative.

Table 1. Summary of Impacts and Mitigation Measures for Identified Alternatives

CATEGORY	NO ACTION	PREFERRED ALTERNATIVE
AESTHETICS		
Impact	**None**	**Minimal:** long-term beneficial, long- and short-term adverse
Attributes	No change	. Building 201 constructed within designated historic district. . Several historic contributing buildings demolished . Non-historic, unattractive Canteen building removed . Mature trees removed . Parking lot expanded and new ring road built . Conversion of portion of Veteran's Drive to pedestrian mall . Short-term construction impacts
Mitigation	None required	. Building 201 designed to complement existing historic buildings . Landscaping added in parking lot and pedestrian walkway . Pedestrian walkway will improve entrance aesthetics
AIR QUALITY		
Impact	**None**	**Minimal:** potential short-term adverse
Attributes	No change	Construction generated dust and emissions, diesel generator
Mitigation	None required	. BMPs for dust control . Equipment to meet Federal Clean Air standards . Asbestos abatement prior to demolition . New building to meet air quality standards, and meet or exceed LEED Silver Standard
COMMUNITY SERVICES & UTILITES		
Impact	**Moderate:** long-term adverse	**Moderate:** long-term beneficial
Attributes	ALVH cannot serve as regional disaster center	. Utilities all on-site; some relocations required . Utility capacities all above operational demand . Minimal increases in demand . New regional disaster center
Mitigation	None required	. Demand increases partially offset by LEED construction . Building 201 to have backup systems in case of disaster
CULTURAL RESOURCES		
Impact	**None**	**Moderate:** long-term adverse, long-term beneficial
Attributes	Buildings 24, 27, 50, 86, T97, 112 to remain.	. National Registry Property . Demolition of historic buildings 24, 27, 50, 86, T97, 112 . Construction of new building within historic district
Mitigation	Restoration and re-use of Buildings 2 and 81	. ACHPs Section 106 regulations completed . SHPO review and approval of final design . Buildings 2 and 81 preserved and rehabilitated . New building designed to compliment Historic District . Preservation Plan in place, landscape restoration . Documentation of all historic buildings to be removed prior to demolition . Archeological survey and monitoring of excavation areas . VA in consultation with SHPO will develop an exhibit on the historic significance of the campus

ENVIRONMENTAL JUSTICE & RESIDENT POPULATION		
Impact	**Minimal:** long-term adverse	**Minimal:** long-term beneficial, short-term adverse
Attributes	Resident population at risk	. No Minority or low-income populations in project vicinity . Potential resident low-income population . Short-term construction disruption
Mitigation	None required	. Reduction in seismic risk and improved facilities . Cafeteria and other services relocated to Building 2
GEOLOGY, SOILS & SEISMICITY		
Impact	**Severe:** long-term adverse	**Minimal:** short-term adverse **Moderate:** long-term beneficial
Attributes	Patients, staff, and visitors at risk	Minimal ground disturbance, excavation for partial basement, utility relocates
Mitigation	None required	. BMPs for erosion control during construction . Building constructed to meet seismicity standards
HAZARDOUS AND SOLID WASTE		
Impact	**Minimal:** long-term adverse	**Minimal:** short-term adverse, long-term beneficial
Attributes	Presence of asbestos and lead containing materials in buildings	. Several decommissioned USTs in project footprint . Several operational USTs immediately proximate to project . One operational UST in project footprint may be relocated . Lead and asbestos containing materials in buildings to be demolished . Addition of a 1,000 gallon above-ground diesel storage tank
Mitigation	None required	. All disturbed USTs will be inspected for leaks during excavation and remedial action taken if necessary . All asbestos containing materials abated prior to demolition . Filing EPCRA Tier II inventory report for diesel storage
LAND USE & REAL PROPERTY		
Impact	**None**	**None**
NOISE		
Impact	**None**	**Minimal:** long-term beneficial, short-term adverse
Attributes	No change	. Temporary increased noise during construction . Improved sound insulation in Building 201 . Traffic re-routed around parking and away from building
Mitigation	None required	. Construction of BMPs for noise control . Adherence to WAC codes regarding noise regulation . Improved sound insulation in Building 201 . Portion of Veteran's Drive to become pedestrian walkway
POTENTIAL FOR GENERATING SUBSTANTIAL CONTROVERSY		
Impact	**Minimal:** long-term adverse	**Minimal:** long-term beneficial
Attributes	Continued seismic risk could generate controversy	. Reduction of seismic risk to patients, staff, and visitors . Improved delivery of services to veterans . Project area isolated from surrounding community . Involvement of interested parties on Historic District impacts . Minimal construction disruption
Mitigation	None required	. Mitigation for impacts to Historic District

SOCIOECONOMICS		
Impact	**None**	**Minimal:** short-term beneficial
Attributes	No change	Economies of scale limit potential impacts
Mitigation	None required	None
TRANSPORTATION & PARKING		
Impact	**Moderate:** long-term adverse	**Moderate:** long-term beneficial **Minimal:** short-term adverse
Attributes	. Parking shortage . Ongoing pedestrian safety issues on Veteran's Drive	. Construction of ring road . Expansion of north parking lot . Removal of canteen parking lot . Temporary traffic and parking impacts during construction
Mitigation	None required	. Improved traffic flow and pedestrian safety . Net gain of 80 parking spaces . Phasing of construction to reduce temporary construction impacts
VEGETATION		
Impact	**None**	**Moderate:** long-term adverse, long-term beneficial
Attributes	No change	. No impact to listed plant species. . 48 mature native trees removed including 20 priority Oregon oaks . Conversion of vegetated areas to impervious surface
Mitigation	None required	. 50 native conifers and 200+ deciduous trees planted . A grove of 40+ Oregon oaks planted west of campus
WATER RESOURCES		
Impact	**None**	**Minimal:** long-term beneficial
Attributes	No change	. No impact to surface waters, wetlands, or floodplains . Increased impervious surface . Exposed soils during construction
Mitigation	None required	. Water quality BMPs during construction . Comply with conditions of NPDES general construction permit . Comply with EISA 438 through incorporation of rain gardens, green roof, stormwater filter units, and infiltration pipes that will result in improved water quality and no increase in runoff . SPCC Plan update to include new fuel storage tank
WILDLIFE & WILDLIFE HABITAT		
Impact	**None**	**Minimal:** short-term adverse
Attributes	No change	. Removal of mature trees . Construction noise and disruption
Mitigation	None required	. Trees will be cut down outside migratory bird nesting season . Construction BMPs . Timing restrictions if herons or eagles nesting

Aesthetics

Aesthetics refers to the interaction between an individual and the environment with regard to perceptions of beauty. Visual resources may consist of natural landscapes and views or man-made features. Rare or unique natural settings or historic properties are considered to have a high sensitivity to impacts. Landscapes that are not unique or have been altered through modern development tend to have lesser sensitivity.

Affected Environment

The American Lake campus has many unique aesthetic attributes. It is located along the shores of a lake with numerous mature Douglas-fir trees and grass lawns that create a park-like setting. The campus includes a designated historic district which encompasses the entrance along Veteran's Drive to Curtis Drive and the original core of the campus which is mostly south of Veteran's Drive. Within the historic district, the Spanish Colonial Revival architecture of the original buildings is stately and elegant with stucco walls, red tile roofs, and prominent entrances. A formal avenue lined with flowering cherry trees leads into the campus. Most of the main buildings are oriented to face the lake to take advantage of the views. There is a view to the northwest beyond the parking lot of old fields, some remnant prairie, and forested areas on Fort Lewis. The historic district is considered a sensitive visual resource.

Aerial view of the American Lake Veteran's Hospital Campus showing the park-like setting on the lake and the historic architecture.

The portion of the campus along Veteran's Drive between Curtis Drive and Engle Way is not as aesthetically pleasing as the entrance to ALVH and the interior of campus. To the north is the main parking lot and to the south is Building 81, the Canteen, and several utility shops and warehouses. The south side of the road is part of the Historic District and considered a

sensitive visual resource, while the north side is outside the Historic District and not considered a sensitive visual resource. The main parking lot north of campus is currently partially paved and partially gravel with no landscaped areas to break up the large expanse of parking. The Canteen, which was built in 1980, does not have the aesthetic qualities of the main campus buildings.

Aerial photo of the portion of Veteran's Drive within the project area and the location of Building 81, canteen, utility shops, and main north parking lot.

Environmental Consequences and Mitigation Measures

Preferred Alternative

Under the Preferred Alternative, a modern outpatient medical facility will be constructed southwest of Building 81 within the historic district. The Canteen (Building 132) as well as four of the utility shops and warehouses west of it (Buildings 86, 50, 27, and T98) will be demolished to allow for construction of the new medical center building. The Canteen is a particularly un-remarkable building that detracts from the overall campus aesthetics. Removal of the Canteen will have a positive impact on campus aesthetics. Some of the utility shops and warehouses to be demolished are listed in the Preservation Plan as contributing to the historic significance of the district. However, they are one-story concrete block and brick utility buildings with flat roofs that have little aesthetic appeal. Removal of these historic utility buildings will change the visual character of this portion of the campus.

Building 201 will have its front entrance facing northwest to Veteran's Drive, which will be closed to vehicle traffic and converted to a pedestrian mall with landscaping. A loop road will extend from Curtis Drive along the northern perimeter of the parking lot and connect back into Veteran's Drive at Engle Way. The parking lot will be expanded and redesigned to include landscaped areas and rain gardens. Over 200 trees will be planted in the parking lot. This will break up the expanse of parking and greatly improve the aesthetics of the parking

lot. Removing traffic from Veteran's Drive and turning it into a pedestrian plaza will effectively open the campus to the north and create a more visually appealing entrance from the main parking area.

To mitigate for locating the new building within the historic district, Building 201 will be scaled so as not to overpower or detract from the surrounding buildings and will utilize materials, design, and construction consistent with the historic nature of the surrounding campus. Some of the principles of the character of historic structures that will be incorporated in Building 201 include:

- Light-filled central lobby or atrium
- Windows at the ends of corridors
- Skylights in larger departments
- Upper and lower level building setbacks
- Planted entry court and elevated terraces
- Access at garden level to public uses, such as a café
- Second level terraces with access to outside
- Smooth facades with deep window recesses
- Rhythm and proportion of fenestration to help break down façade scale
- Strong horizontal lines, strong eve and cornice lines
- Use of historic colors
- Celebrated entries

These mitigation measures will insure that the new building compliments the existing historic buildings and does not detract from existing campus aesthetics.

To allow for expansion of the parking lot, construction of the ring road, and construction of Building 201, the Preferred Alternative includes the removal of 29 mature Douglas-fir trees and 20 mature Oregon white oak trees. Most of these trees are currently located in a park-like grove near the tennis courts on the north side of the parking lot. A few mature Douglas-fir trees will also be removed from south of the existing canteen building. The mature trees are an important component of campus aesthetics. Many of the trees to be removed are over 100 years old and have sizable height and diameter characteristics. Even though this tree removal will be offset by planting trees and other landscaping, it will be many decades before replacement trees reach the same stature.

In summary, there will be minimal short- and long-term adverse aesthetic impacts associated with construction and the removal of historic structures and mature trees. The project will mitigate for these impacts through the removal of the unattractive Canteen building, improvements to the parking lot, creation of the pedestrian plaza between the parking lot and campus, design of the new building to complement existing campus buildings, and planting of additional trees. This will result in a minimal long-term beneficial impact.

No-Action Alternative

Under the No-Action Alternative, there would be no change to the aesthetic attributes of the campus.

Air Quality

Air quality refers to the concentration of air contaminants in a specific location. Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and prevailing meteorological conditions. The Clean Air Act, as amended in 1990, requires the US Environmental Protection Agency to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The NAAQS have been set for six principal pollutants: carbon monoxide, lead, nitrogen dioxide, particulate matter less than 10 microns or 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), ozone, and sulfur dioxides.

The Clean Air Act established two types of NAAQS: primary standards set limits to protect public health including "sensitive" populations (e.g., asthmatics, children, the elderly), and secondary standards set limits to protect public welfare. Any areas with pollutant levels meeting NAAQS are referred to as “attainment areas.” These areas are monitored regularly for compliance. Any areas that do not meet NAAQS are called “non-attainment areas.” Those areas that were previously non-attainment areas but are now meeting NAAQS are referred to as “maintenance areas.” The General Conformity Rule, established under the Clean Air Act (section 176(c)(4)), requires federal agencies to work with State, Tribal and local governments in a nonattainment or maintenance area to ensure that federal actions conform to air quality plans established in the applicable state or tribal implementation plan. If the proposed action is determined to be “de minimis” with regard to air pollution, it is exempt from further action under the General Conformity Rule.

Affected Environment

Air quality at the ALVH campus is generally good, with no major sources of air pollution in the immediate vicinity. No monitoring stations that have violated the NAAQS were located on or near the subject site. Potential existing sources of air pollution at the ALVH include vehicle exhaust, emissions from the existing steam plant which burns natural gas and heating oil, cooking exhaust, and localized discharges from storage tank vents. None of these sources is likely to have a significant impact on air quality. JBLM may contribute to air pollution in the vicinity through jet exhaust and military activities. The Master Plan notes that the JBLM hopes to reduce installation source and non-tactical motor vehicle air emissions by 85% by 2025. Interstate 5 is a little over a mile to the south and east and likely has some potential to lower air quality at ALVH.

The ALVH is located in Pierce County, Washington, under the authority of the Washington Department of Ecology (Ecology) and the Puget Sound Clean Air Agency (PSCAA). The PSCAA has classified the portion of the county that includes the ALVH as an air quality maintenance area for carbon monoxide and ozone, indicating that this area now meets NAAQS. In March 2008 the EPA lowered its 8-hour ozone standard from 0.08 parts per million (ppm) to 0.075 ppm. Ecology has tentatively recommended to the EPA that the Puget Sound Region might eventually be re-designated as an ozone non-attainment area. Ecology will make its formal recommendation in 2012 and, if the Puget Sound Region is re-

designated to be an ozone non-attainment area, the ALVH will be likely be included in this designation.

In December 2006, the EPA set a stricter daily standard for $PM_{2.5}$ to better protect public health; this change could result in portions of Pierce County being classified as a non-attainment area for particulates less than 2.5 microns. However, Ecology recommended to EPA that Fort Lewis be excluded from the $PM_{2.5}$ non-attainment area (WDOE 2008, 2008a) because particulate levels are not considered a problem on the base.

Because ALVH is a medical facility, there are patients who could be considered sensitive receptors for air pollution.

Environmental Consequences and Mitigation Measures

Preferred Alternative

The Preferred Alternative includes the demolition of existing structures as well as construction of the new building and improvements to traffic and parking. The new Building 201 will be built to LEED standards and will be heated and cooled with a highly efficient geothermal heat pump system that has very low emissions. There is no increase in traffic resulting from this project as no new services are being added. Demolition of Building 132 and the utility shops, as well as construction of Building 201, could result in a short-term degradation of air quality. Dust from excavation and grading activities can contribute to ambient concentrations of suspended particulate matter, both PM_{10} and $PM_{2.5}$. All demolition and construction activities would be required to comply with the applicable PSCAA regulations regarding reasonable best management practices (BMPs) for dust control. These precautions include, but are not limited to, the use of water on-site to reduce fugitive dust and temporarily halting dust-producing construction activities if BMPs are not effective in controlling visible dust.

Demolition and construction activities would also require the use of heavy equipment, trucks, and smaller pieces of equipment with the capability of generating emissions, including generators, compressors, and fuel powered hand tools. This equipment would contribute emissions impacting air quality for the duration of their use. The contractor will be required to have all machinery exhaust meet federal clean air standards, and can further reduce emissions by avoiding prolonged idling of vehicles and engine-powered equipment, and providing routine maintenance of all equipment and vehicles. Projected levels of construction related air emissions have been analyzed for a number of similar scale projects and found to be well below the “de minimis” levels set forth in the General Conformity Rule.

Use of the new emergency diesel generator would result in short-term releases of carbon monoxide, nitric oxides and particulates. Assuming the new generator will only be used for emergencies and will meet the new Tier 4 standards for diesel engines (40 CFR Parts 60) total emissions would be well below the “de minimis” thresholds identified in the General Conformity Rule. Emergency electrical generators are covered under the Washington Department of Ecology General Order of Approval for Diesel-Powered Emergency Electrical Generators (DOE General Order 06-AQG-006). The Puget Sound Clean Air Agency administers this program in Pierce County and does not require an operating permit if the emergency diesel generator meets current standards and operates less than 500 hrs per year.

Asphalt/paving operations may cause noticeable odors to nearby observers during active paving. All paving operations for the parking lot are located at a distance from the medical centers such that there should be no noticeable odors in the buildings. There is the potential for people utilizing the temporary parking lots to be subjected to odors from paving operations for short periods of time. Paving of the gravel parking lot will have a positive impact on reducing dust and particulates over the long term. Short-term construction impacts will be minimal and mitigated through the use of BMPs.

There are sensitive receptors at the ALVH, particularly patients that will be utilizing the medical facility at Building 81 during demolition and construction activities. The proposed project activities have the potential to adversely impact the air quality of sensitive receptors through exposure to elevated levels of particulate matter. Potential exposure can be drastically reduced and, in many cases, eliminated through BMPs that include limiting exposed soils, covering stockpiles, using water when soils are dry and limiting earth moving during high winds. A hazardous materials survey of Building 132, Building 50 and the other utility buildings has identified asbestos containing materials. Asbestos abatement will be conducted prior to demolition by licensed abatement contractors to assure that this substance is not released to the ambient air.

In summary, construction and operation of the new Building 201 is expected to have an insignificant impact on air quality at the ALVH and to meet the definition of “de minimis” under the General Conformity Rule.

No-Action Alternative

The No-Action Alternative would have no impact on existing air quality at the subject site.

Community Services and Utilities

Services provided by surrounding communities such as police, fire, ambulance, and emergency services are considered community services. The utilities category refers to changes in the use of public utilities at the property.

Affected Environment

The ALVH campus provides a service to the community through the medical care it provides to veterans in the south Puget Sound Region. Most outpatient services are provided in Building 81 which not only poses a life safety risk to patients, but is also in need of numerous updates. ALVH has been proposed as a community emergency center, but currently has very limited capacity in this regard as its main hospital building (Building 81) would sustain serious damage in an earthquake.

American Lake does not rely on the greater community for most services. It has its own police force and its own ambulance for outgoing use. Fire protection is the only community service provided by the surrounding community. Lakewood Fire District 2, which is part of West Pierce Fire and Rescue, provides fire protection services to the campus. Fire hydrants and water service are provided by JBLM. The ALVH currently provides a limited emergency response community service to the surrounding communities.

Because the ALVH is located on JBLM, most of its utilities including power, water, solid waste, hazardous waste, and sewer are provided by the base. Operational demands for these utilities are currently being met. Electricity is delivered to the campus from a 13.8 kV aerial feeder from the Fort Lewis primary distribution system. At the American Lake campus, two distribution transformers provide 4.16 kV service to the campus. There is a plan to upgrade the existing 4.16 kV distribution system to operate at 13.8 kV in the near future. The campus also has two 5kV diesel generators located in the electrical service yard for emergency power. Water is provided from the Fort Lewis water distribution service which obtains water from a spring at Sequalitchew Springs and eight wells within the base. Sewage is sent to the Solo Point Wastewater Treatment Plant operated by the JBLM. This treatment plant is currently operating at about 60% of average design flow and 25% of maximum design flow. The plant filters and treats the wastewater before it is discharged to Puget Sound.

Stormwater on the ALVH campus either infiltrates or is collected in a series of roof drains and catch basins and transported to several outfalls on American Lake. The project area is served by a single system with its outfall near Building 111. There is currently no treatment of stormwater before it enters the lake.

Environmental Consequences and Mitigation Measures

Preferred Alternative

One of the VA missions is to provide emergency preparedness support to the Department of Defense in times of natural disasters or national emergencies. The Preferred Alternative would provide a significant permanent benefit to the community in that Building 201 could serve as a regional disaster center for surrounding communities. The building will be constructed to withstand major events and have redundant systems for water, fire suppression, power, and sewer systems, allowing it to remain operational even if primary utilities are rendered inoperable. An additional diesel generator and above ground diesel storage tank will be added to power the essential electrical system. The campus SPCC (Spill Prevention, Control and Countermeasure) Plan will need to be updated to include this new tank. A storage tank for potable water and a storage vault for sanitary sewer will be provided for use when site utilities are unavailable due to an emergency.

Under the Preferred Alternative utilization of community services is not expected to increase. The total number of buildings needing fire protection by the Lakewood Fire District will actually decrease with five older buildings being replaced with a single new building that will be designed with a full coverage wet sprinkler system. There are two existing fire hydrants in the vicinity of Building 201. In the event these hydrants are damaged or inoperable, there is also a bulk water storage tank on the site as well as existing mobile pumps that can utilize American Lake as a water source.

All of the utility services are currently available in the project vicinity. Construction of Building 201 will require some utility lines to be extended or relocated from existing connections. Extension of the utility lines will involve the digging of trenches and the placement of fill. The following extensions or relocations will be required:

- A new electrical line will be extended from a primary vault along Veteran's Drive to a new vault to the southwest of Building 201.

- Telecommunications will be extended from an existing vault on Veteran's Drive to the northwest side of Building 201.
- Portions of the existing sewer under the project site will be demolished and relocated, and a new sewer will be installed south of Building 201 with connections to existing sewer pipes to the west and east.
- The existing water service to the canteen will be removed. A new 4-inch domestic and 6-inch fire service will be installed at the east side of Building 201 and connected to the existing and realigned water service running north/south across the property, east of Engle Court and the existing warehouse.
- Stormwater runoff from the new building and parking lot will be directed to stormwater planters and allowed to infiltrate. In those portions of the parking lot where conveyance of stormwater to the planters is not feasible, stormwater filter units will be installed to provide water quality treatment. Overflow pipes will connect to the existing storm drain system that drains to American Lake.
- The existing natural gas service from Puget Sound Energy will need to be relocated around the new building foundation.
- Existing steam lines in the vicinity of the project will be replaced

Because the Canteen building is being removed and services are being relocated from Building 81 to Building 201, adding a new building will likely result in only a very minor increase in water and sewer use and no increase in fire protection. The new building will also be designed to LEED standards. An efficient heat pump system that utilizes a ground based heat exchange system is proposed for Building 201. This system, combined with other electrical demands in Building 201, is likely to contribute to an overall minor increase in electrical demand.

There will be a long-term community service benefit from eliminating the seismic risk associated with Building 81 and construction of a modern medical facility that can serve as a regional disaster center. Since current services and utilities are not at capacity, the impact on utilities will be minimal.

No-Action Alternative

The No-Action Alternative would result in no alteration to community services or utilities. The ALVH could not serve as a community disaster center and veterans receiving services at Building 81 would continue to be at risk.

Socioeconomics, Environmental Justice, and Resident Population

Socioeconomics refers to the effect that the proposed action would have on the social or economic conditions in the surrounding area. Executive Order 12898 (Environmental Justice in Minority Populations and Low Income Populations) directs federal agencies to consider any potentially disproportionate human health or environmental risks federal agency activities, policies, or programs may pose to minority and/or low-income populations. Low-income populations are a group of individuals living in geographic proximity with household incomes at or below the poverty level, as identified by the U.S. Census Bureau. The guidance document defines a "minority" as individuals who are American Indian, Alaskan

Native, Asian or Pacific Islander, Black, or Hispanic. A low-income or minority population is present when members of either group constitutes greater than 50% of the population of the project area or "the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis" (EPA 1998)

Affected Environment

The ALVH campus is located in Pierce County, Washington, 12 miles south of the City of Tacoma and 20 miles northeast of the City of Olympia, both of which are large urban centers with diverse economies. ALVH has a staff of approximately 1,100, which includes VA and non-VA employees, volunteers, and residents. This number represents less that 0.3 percent of the workforce in the greater Tacoma/Olympia area. The demographics of the geographic area in the vicinity of the ALVH are shown in Table 2. Since the 2010 census data was not available at the time of writing this document, we show data from the 2000 national census. Pierce County covers a large geographic area with diverse local demographics. Smaller geographic areas within Pierce County likely do meet the definition of minority or low income. The City of Lakewood is the closest political entity to American Lake with census data. The census data for the City of Lakewood and Pierce County indicate that neither of these political entities has total populations that fit the definition of minority or low income as defined above.

Table 2. Demographic Data from the 2000 Census on Minority and Low-Income Populations in Pierce County, Washington, and the City of Lakewood, Washington

2000 Census Data	Pierce County		City of Lakewood	
Population	700,820		58,211	
Per Capita Income	20,948		20,569	
Race	Number	Percent	Number	Percent
▪ Caucasian	579,234	82.6	37,734	64.8
▪ Black/African American	59,948	8.5	7,132	12.3
▪ American Indian/Alaska Native	19,990	2.8	902	1.5
▪ Asian	48,803	7.0	5,208	8.9
▪ Native Hawaiian/Pacific Islander	9,581	1.4	1,070	1.8
▪ Hispanic/Latino	38,577	5.5	4,941	8.5
▪ Some Other Race	23,000	3.3	2,068	3.6
▪ Two or more races	39,041	5.6	4,097	7.0
Total Minority Population	153,899	22.0	19,253	33.1
Families Below Poverty Level	13,574	12.3	1,894	12.5
Individuals Below Poverty Level	71,316	10.2	8,931	15.8

Source: U.S. census data from 2000

A more relevant demographic to consider might be the population of veterans who receive services at ALVH and the smaller resident population at ALVH. Activities at American Lake have the potential to impact the social and economic well being of this veteran population.

Veterans who receive services at ALVH include all demographics, though VA hospitals in general tend to primarily serve those who do not have private health insurance. A 1993 nationwide survey indicates that users of VA facilities are twice as likely to be uninsured (21%) as the total population of Veterans (9%; Klein, 2001).Though lack of insurance is not necessarily directly correlated with low income, it may be an indicator.

The ALVH currently has the capacity to house approximately 150 veterans, with 80 beds in the new Community Living Center, 60 in the homeless domiciliary, and the balance in the blind rehabilitation center. Some residents stay only a few days, while others may live at American Lake for many years. There are also a few staff members who reside on the premises. It is quite possible that the resident population, which includes a significant homeless population, could meet the definition of low income; although no specific data is available.

Environmental Consequences and Mitigation Measures

Preferred Alternative

The preferred action would allow the VA to continue to provide high quality and much needed services to veterans in the Puget Sound region. These services provide a social benefit not only to the veterans and their families but to the community at large. Social and economic conditions in the greater Tacoma/Olympia areas are not likely to be affected much by activities at ALVH given the scale of economies in the region. The project may provide a minor short-term benefit of contributing to the local economy through procurement of supplies and construction related jobs, especially when combined with the renovation projects in Buildings 2 and 3 that are necessary precursors to the Preferred Alternative. This short-term increase in construction-related employment may also provide a minor short-term benefit to the local retail and service sectors.

Since services are simply being transferred from Building 81 to Building 201, there will not be a significant increase in staffing. However, construction of Building 201 will allow for the eventual seismic retrofit and renovation of Building 81 for use as office space and expansion of services which will, in turn, lead to an eventual increase in staff. Staff increases will provide a minor long-term economic benefit to the community.

The Preferred Alternative will remedy the seismic life safety deficiencies of Building 81, providing a benefit to all users of medical services at American Lake and to the staff. No residents will be displaced as a result of the project. During demolition and construction, there is liable to be some disruption to the resident population in the form of noise and inconvenience. Once the project is finished, however, there should be a net benefit.

No-Action Alternative

Under the No-Action Alternative, veterans who receive services at Building 81 would continue to be at risk in the event of an earthquake, affecting all veterans who seek services at ALVH. Continued non-action could possibly lead to the closure of Building 81 and the discontinuation of outpatient services at American Lake. If that were to happen, there is the potential for a significant impact to the community of veterans served by the campus.

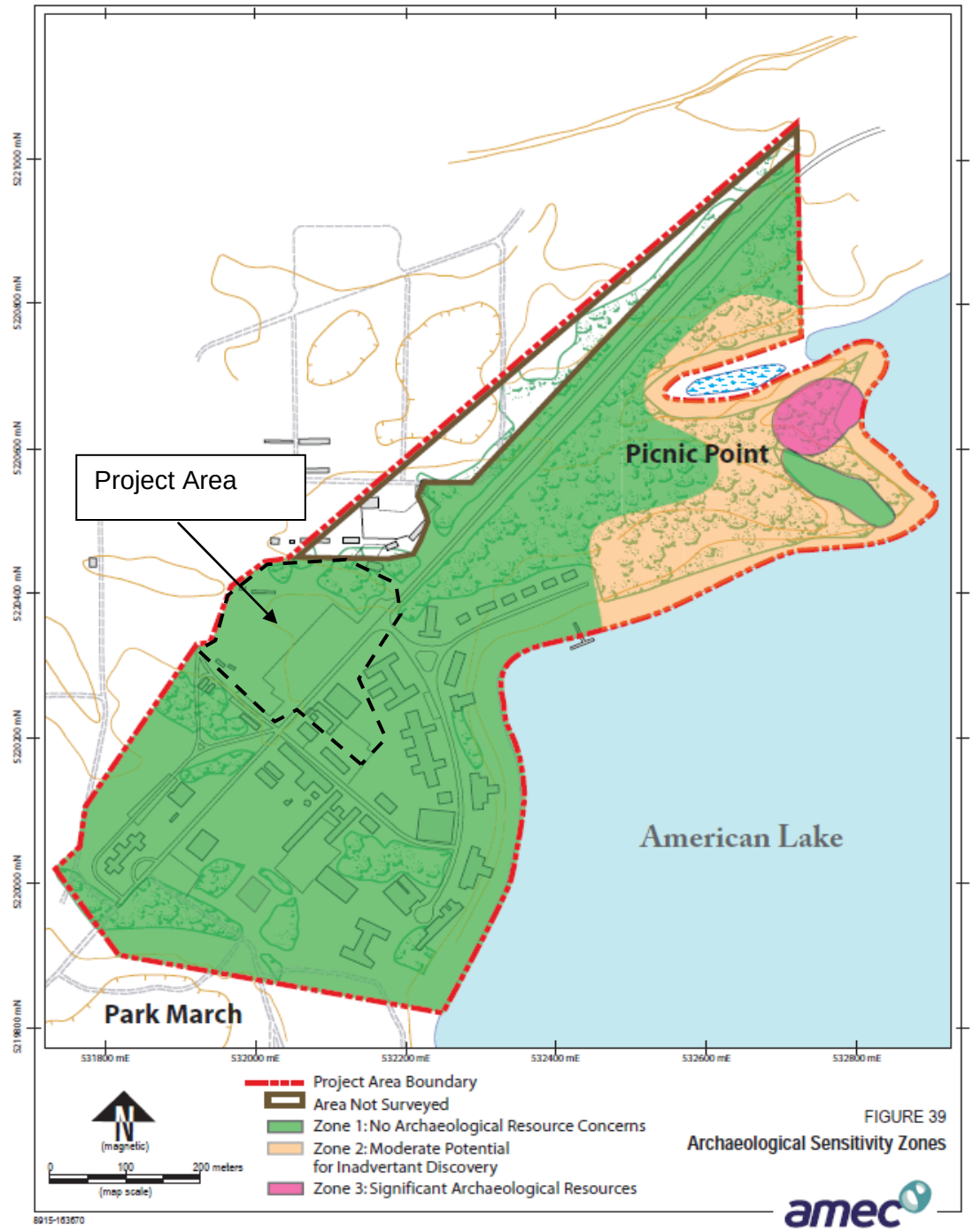
Cultural Resources

Cultural resources include both archeologically significant elements and historic elements. The Archeological Resources Protection Act prohibits the excavation of archeological resources on federal lands. The National Historic Preservation Act (NHPA) of 1966, as amended, provides for the preservation of historic properties. Section 106 of the NHPA requires that federal agencies consider the effects of their actions on such properties. Section 110 requires the heads of all Federal agencies to assume responsibility for the preservation of historic properties which are owned or controlled by such agency. Section 111 allows any Federal agency to establish and implement alternatives for managing historic properties including adaptive use, leasing or exchanging the property. Adverse impacts to historic properties can include physical damage or destruction, alterations inconsistent with standards, relocation, change in the property use or setting, introduction of incompatible uses or elements, or neglect and deterioration. Section 106 review is handled by the State Historic Preservation Officer (SHPO). Section 106 requirements have been completed by Artifacts Architectural Consulting for the proposed project. These have included preparation of the American Lake Veterans Hospital Preservation Plan, consultations with SHPO, local tribes, and local historical societies, and preparation of a Memorandum of Agreement (MOA) with SHPO. A copy of the signed MOA is attached as Appendix A.

Affected Environment

Pre-historic

While human occupation of the lower Puget Sound region likely dates back as much as 14,000 years, archeological investigations in the vicinity have yielded little information about the earliest inhabitants. More recently, the American Lake vicinity was occupied by native tribes including the Nisqually, Puyallup, Squaxin Island and Steilacoom. Nisqually territory extended along the Nisqually River from Puget Sound up river nearly to Mount Rainier and included all of the present day JBLM. Numerous villages were located within this territory. The prairie landscapes in the vicinity of American Lake were known to provide important food sources to the native tribes and appear to have been maintained through frequent burning. A number of archeological studies have been done at or near ALVH, the most recent of which included the entire campus (AMEC, 2009). During this survey, several prehistoric sites or isolates were identified, primarily in the picnic point region. No pre-historic evidence was found in the project vicinity. Figure 8 is taken from the AMEC report and identifies portions of the campus that have low, medium and high sensitivity for archeological materials. The project area falls within that portion of the campus deemed to have no archeological resource concerns. The lack of potential archeological resources within the developed portion of the campus is primarily attributed to the level of ground disturbance that has occurred on the site.



PBS

Figure 8: Archeological Resource Sensitivity (From Amec, 2009)

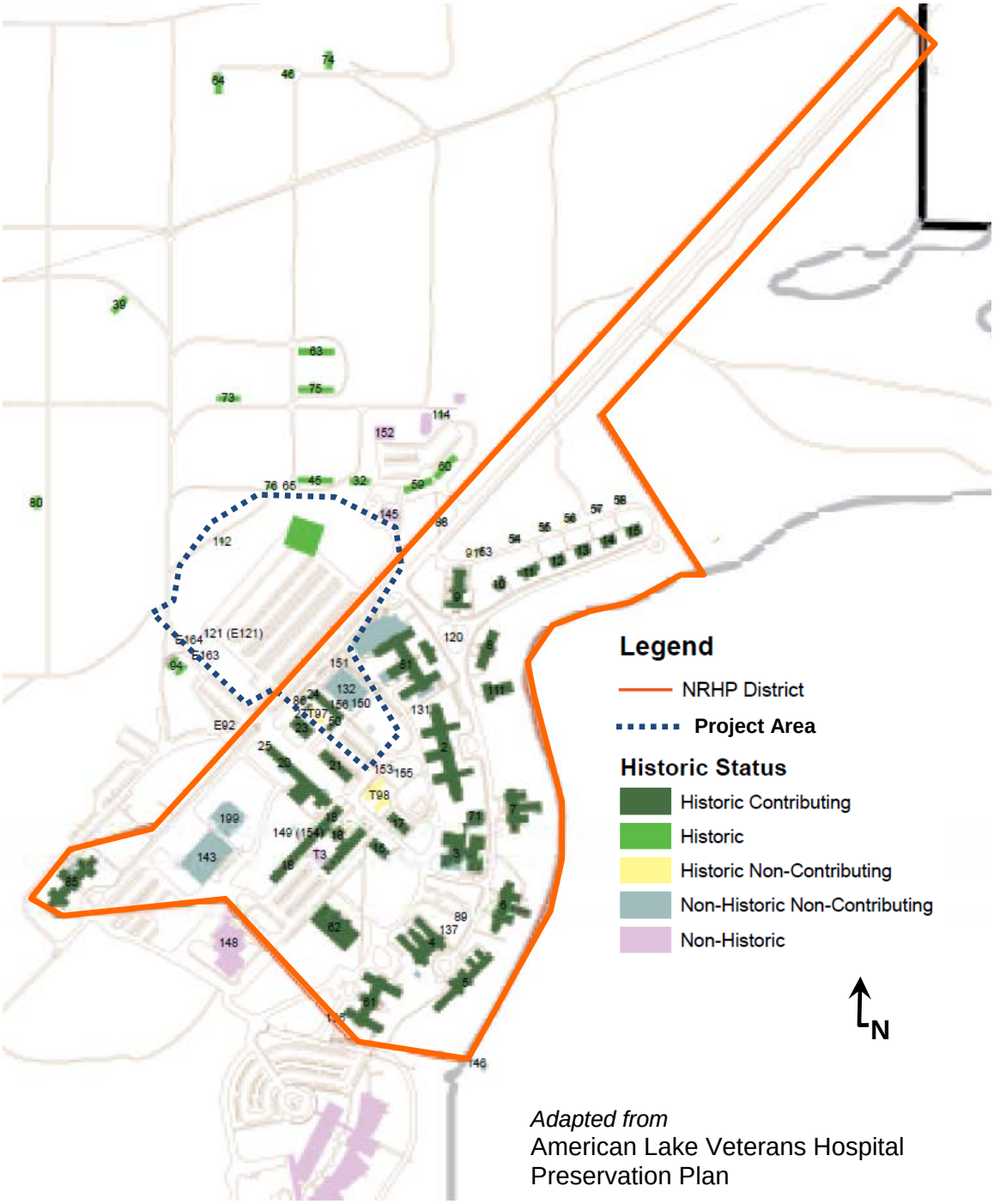
VA American Lake Building 81 Replacement - Environmental Assessment

Historic

European settlement in southern Puget Sound began in the 1830s with the establishment of a British Hudson Bay Company outpost at the mouth of the Nisqually River. Settlers gradually moved into the area and an American fort was established at Steilacoom in the 1850s. A claim filed under the Donation Land Claims in 1855 by Sherwood Bonney included much of the current ALVH property. By 1860 the Nisqually tribe had lost most of their original territory. During the late 1800s and early 1900s portions of the lakefront were used for summer recreation by wealthy Tacoma residents. In 1880, Stephen Nolan built a three story mansion, known as The Bel Mar Villa on the ALVH lease site near the current north parking lot. In 1917, Pierce County gave the military the rights to the Fort Lewis reservation, which included the ALVH site.

Construction of the American Lake campus was begun in 1923, with 19 buildings completed by February of 1924. The first major expansion occurred between 1927 and 1939 with several new buildings and additions. It was during this period that the farm was developed north of the campus and the tennis court and baseball diamond were added in the north parking lot area. The second major expansion came in the 1940s and included the construction of Building 81, the main hospital building in 1947. Very little construction occurred during the 1950's and 60's but the focus of the ALVH shifted from primarily in-patient care to primarily outpatient care. In 1980, the canteen was built on the site of a sunken rose garden. Since the initial development, most of the older buildings have been added to and/or gone through renovations and remodels. In the 1990s a large one story receiving wing was added to the north side of Building 81.
The ALVH was originally determined to be eligible for listing in the National Register of Historic Places in 1980 with a boundary that included not only the entire campus, but the former agricultural area to the north. The agricultural area was later removed from the district because many of the buildings had been demolished and the area no longer had a strong connection to the campus. In 2008, 115 acres of the ALVH was listed on the National Register of Historic Places (NRHP) as a historic district (Figure 9). The period of significance for the American Lake NRHP district extends from 1923 through 1958. Significance is defined under the categories of Health/Medicine for the hospital's distinguished care of U.S Veterans in neurological medicine and outpatient treatment, and under Architecture for embracing prevailing American design movements within an institutional mandate. The landscape architecture of the campus also reflects early twentieth century principles with the entrance promenade, curving drives, combination of native vegetation and formal plantings, and the arrangement of buildings in a hierarchical manner.

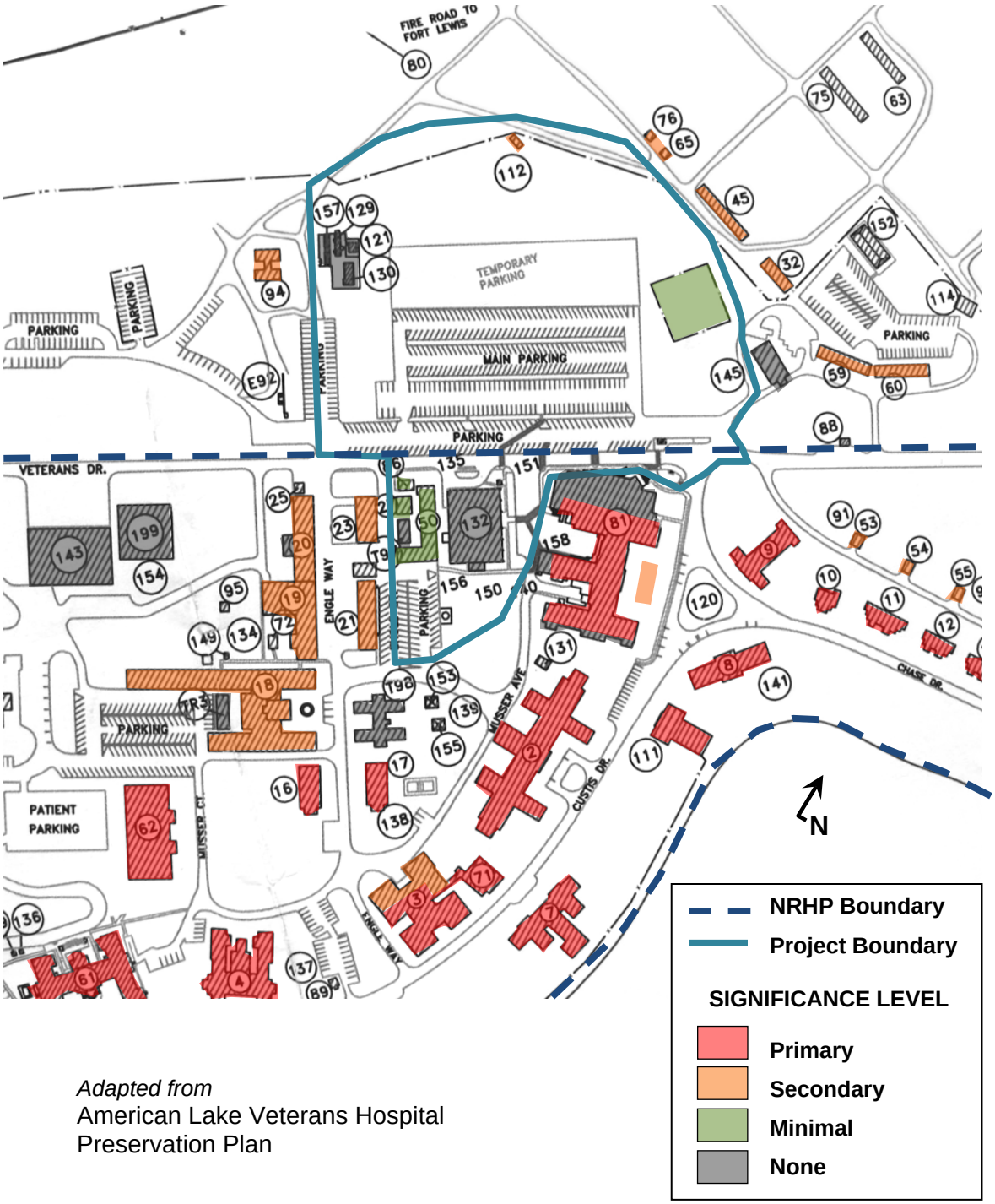
The Preservation Plan that was prepared by Artifacts in 2010 evaluated each building within the historic district for its contribution to the historic district (Figure 9) and its level of historic and archeological significance (Figure 10). Buildings are described as either historic or non-historic based on date of construction. Anything more than 50 years old in 2010 was considered historic. Historic buildings within the NRHP district are considered either contributing or non-contributing based on their level of integrity and their strength of association with the delivery of medical services or the architectural design values of the period of significance. A resource is further defined as having a primary, secondary, minimal or no role with regards to historic significance. Some buildings may have a minimal role in defining historic significance but still contribute to the historic district if they represent original typical campus infrastructure. Please refer to the Preservation Plan for details on the historic district and the contributing buildings.



PBS

Figure 9: National Historic District and Contributing Buildings

VA American Lake Building 81 Replacement - Environmental Assessment



Adapted from
American Lake Veterans Hospital
Preservation Plan

PBS

Figure 10: Historical and Architectural Significance of Structures

VA American Lake Building 81 Replacement - Environmental Assessment

Environmental Consequences and Mitigation Measures

Preferred Alternative

The preferred alternative is not expected to have any impact on pre-historic cultural resources. All project activities are within an area designated as having no archeological resource concerns. However, as a precaution, the MOA stipulates that an archeologist be present during excavation activities. Potential impacts to historic resources includes the demolition of seven existing buildings (24, 27, 50, 86, 112, 132 and T97) and several support structures (150, 151), and removal of the tennis court and a portion of veterans drive. This alternative also includes the construction of the outpatient medical facility within the designated historic district. Buildings scheduled for demolition are listed in Table 3.

Table 3. Historic Significance of Structures to be Demolished

Name	#	Built	Size ft^2	NRHP District	Contributing	Significance
HISTORIC						
Electrical Substation	24	1923	587	Yes	Potentially	Minimal
Sewage Pumping Station	27	1923	700	Yes	Yes	Minimal
Utility Shops	50	1928,1933	4,436	Yes	Yes	Minimal
Switch House	86	1946	383	Yes	Yes	Minimal
Welding Shop	T97	1946	880	Yes	No	None
Athletic Field Storage	112	1958		No	Yes	Secondary
Tennis Court		1930s		No	No	Minimal
NON-HISTORIC						
Canteen	132	1980	11,957	Yes	No	None
Smoking Shelter	150	1995		Yes	No	None
ATM Shelter	151	1995		Yes	No	None

Buildings 24, 27 and 50 consist of utility shops built from 1923 to 1933. They are historic buildings that contribute to the NRHP district because they represent original infrastructure but they have only a minimal role in defining historic architectural significance. The carpentry, electrical, plumbing, painting and lock shops are currently located in these buildings.

Building 86, a switch house, was built in 1946 as part of the post WWII site developments. It is historic and contributes to the architectural significance of the district, but only plays a minimal role due to substantial alterations.

Building T97 is a post World War II surplus Quonset hut which does not contribute to historic significance.

Building 132, the canteen, is within the NRHP district but is a modern cinder block building that does not contribute to the historic district. A smoking shelter (150) attached to the back of the canteen and an ATM shelter (151) near the front will also be removed.

Building 112 was originally built as an athletic storage building, but was later used to store pesticides and other landscape maintenance chemicals. It is considered an historic structure with a secondary significance level. Despite the fact that it is outside the historic district, it does have a contributing role within the recreation group

Other potential impacts to the historic district include conversion of a portion of Veterans Drive into a pedestrian mall and removal of a few large Douglas-fir trees located behind the canteen. The Preferred Alternative also includes removal of the tennis courts which are considered historic, but outside of the historic district and having minimal historic significance. Despite the fact that there will be some impacts associated with the project, the preservation plan notes that through master planning and State Historic Preservation Office review, new site development can be a mechanism to sustain the vitality of the campus and deliver excellent health care to veterans.

After consultation with SHPO, the VA has entered into a Memorandum of Agreement that has been signed by all parties. Proposed mitigation measures are shown below

- Phasing of project to maintain medical operation through the relocation of services prior to demolition
- SHPO review and approval of the Building 201 design to make sure the new building respects the historic and architectural qualities of the Historic District and is responsive to the recommended approaches to new construction found in the Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings(36 CFR 68)
- SHPO review of the reuse and improvement plan for Building 2 to ensure consistency with the Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings
- Engage in a dialogue within 1 year with SHPO and the American Lake Design Advisory Committee on the long-term use of Building 81 and prepare a report
- Development within 5 years of an exhibit on the American Lake Veterans Hospital and the historic district, to be publicly displayed in Building 2
- Conduct appropriate written and photographic documentation of all contributing and non-contributing historic structures to be demolished.
- Prior to any ground disturbance, undertake an archeological survey conducted by a professional archeologist of all areas to be disturbed and submit a report to SHPO for review and incorporation into the Washington State Inventory of Cultural Resources and the Historic Property Inventory.
- Have a professional archeologist on site during all project excavations to conduct archeological monitoring.
- SHPO review and approval of landscape plans included in the Preservation Plan and associated with Building 201 construction to ensure that restoration of the landscape meets the Secretary of the Interior Standards for Rehabilitation and the Guidelines for the Treatment of Cultural Landscapes.

No-Action Alternative

Under the no-action alternative, no buildings would be demolished or trees removed and there would be no new building within the historic district.

Geology, Soils, and Seismicity

Geology and soils refers to the potential for loss of soils and changes in geological conditions due to rock excavation, soil erosion, soil compaction, soil horizon removal, grading, and cutting and filling operations. Seismicity refers to the frequency or magnitude of earthquake activity in an area. Executive Order 12699 (Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction) requires seismic safety to be considered for all new buildings receiving federal assistance.

Affected Environment

The geology of the American Lake campus and vicinity is dominated by glacial deposits, originating from the retreat of the Vashon Stade of the Fraser Glaciation approximately 13,500 years ago. The geologic material is comprised mainly of outwash gravels and till. The project site geology is mapped as late Pleistocene aged, Steilacoom gravel deposits consisting of pebble to boulder-sized gravel deposited by the recessional glacier in meltwater streams and deltas.

Topography within the project area is nearly level with elevations ranging from 248 to 258 feet above sea level. Soils in the project vicinity are mapped almost entirely as Spanaway gravelly sandy loam, which are uniformly distributed throughout this area of Pierce County. Spanaway gravelly sandy loam is a prairie soil formed by a glacial outwash mixed with volcanic ash. Spanaway gravelly sandy loam soils are somewhat excessively drained with moderate permeability, have low surface runoff, and present little erosion hazard. The soil has no limitation for development or any other features that would make construction difficult (USDA NRCS, 2006).

A geotechnical report was prepared for the project in 2010. The borings encountered up to 5 feet of fill with underlying native glacial outwash deposits consisting of medium dense to very dense, sandy gravel with trace amounts of silt. Soils tended to become denser with depth with very dense soil found below approximately 10 feet. Groundwater was found at depths of 15 to 18 feet (PBS, 2010).

Damaging earthquakes are well known in the Pacific Northwest region and have included several larger than magnitude 7 on the Richter scale. The 6.8 magnitude Nisqually earthquake of 2001 was centered less than 10 miles to the west and caused damage to buildings on the campus. The ALVH campus is not located along a major fault zone, but it is included in a high seismic activity zone. The Cascadia Subduction Zone, a potential source of large earthquakes and tsunamis, parallels the Washington coastline. A liquefaction analysis for the project site was conducted using a design earthquake of magnitude 7.0 with peak ground acceleration (PGA) of 0.54 g(acceleration due to gravity). The analysis indicated a low liquefaction potential in the native materials due to the dense to very dense nature of the deeper gravel (PBS, 2010).

As discussed in the background section, a structural assessment of Building 81 (Degenkolb Engineers, 2001) noted numerous seismic deficiencies. The building is currently considered a life safety threat to patients and staff. Several of the other buildings on campus have undergone or are currently undergoing seismic retrofitting.

Environmental Consequences and Mitigation Measures

Preferred Alternative

The Preferred Alternative would result in minimal impacts to soils in the project area since excavation is limited to a partial basement under Building 201 and utility installation and removal. Exposed soils in the demolition and parking/road construction area would temporarily have increased susceptibility to wind and water erosion. Erosion and sediment control BMPs will be employed during construction to minimize this potential. The site is relatively flat, so the risk of landslide or erosion is minimal. There is no long-term risk to soils because all soils exposed during construction are scheduled to be stabilized either with structures, asphalt/paving, or landscaping. Temporary stockpiles of soil are anticipated with no net export or import of material.

Construction of Building 201 will eliminate the seismic risk currently associated with delivery of outpatient services in Building 81. The new building will be designed to meet the VA seismic design requirements for critical or essential structures, allowing Building 201 to withstand a design earthquake and remain open. This project provides a significant long-term improvement in the life safety of patients and staff.

No-Action Alternative

There would be no impact to soils or geology under the No-Action Alternative. However, Building 81 would remain an extremely high seismic risk building and noncompliant with International Building Codes for the region. The life and safety of patients and staff would be at risk in the event of an earthquake.

Hazardous and Solid Waste

There are a number of federal laws and regulations governing hazardous materials including the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC 103), the National Emission Standard Hazardous Air Pollutants (NESHAP) (40 CFR 61); the Resource Conservation and Recovery Act (RCRA) (40 CFR 261), and the Toxic Substance Control Act (TSCA) (40 CFR 763). In addition, the state of Washington has numerous regulations regarding hazardous substances, including WAC 173.340 Model Toxics Control Act and WAC 173.360 underground storage tank regulations.

The American Society for Testing and Materials (ASTM) has developed standards for the completion of Environmental Site Assessments (ASTM standard E1527-05). In general, a Phase I Environmental Site Assessment (ESA) compiles information from a site reconnaissance, historical inquiries, regulatory records review, environmental interviews/ questionnaires, and other available data sources to evaluate the environmental conditions at a site. A Phase II ESA further investigates the site based on the identification of recognized environmental conditions in the Phase I.

Affected Environment

A Phase I ESA (PBS, 2011) and a Hazardous Materials Survey (PBS, 2011) were completed for the project site in fall of 2010. Several environmental conditions were identified in these studies, but nothing that warranted further investigation. The project footprint contains three underground storage tanks (USTs) that have reportedly been closed in-place and filled with slurry. A 1,000-gallon tank is adjacent to Building 86 and was used to

fuel a generator until 1995. This tank was regulated and likely went through closure, though no documentation was available. Two 20,000-gallon USTs are located between the Boiler Plant Building 23 and the Warehouse Building 21. These tanks were also taken out of service in 1995. They were used to store heating oil for the Boiler Plant and were hence not regulated. The vent pipes are still in place, and no documentation was found on the decommissioning. A 5,000-gallon heating oil UST is located in the fenced enclosure for the electrical substation in the north parking lot and is used to fuel generators which supply emergency power to the campus. This tank is actively regulated.

Just outside the project footprint are several additional operational USTs. There are two operational 30,000-gallon heating oil underground storage tanks located in the drive lane on the east side of Warehouse Building 21, which is south of the Boiler Plant. These tanks were installed in 1977 and are used for backup fuel for the boilers in the event of a power outage. The tanks were tested for leaks in 2009 and none were found. Another two 1,000-gallon USTs are located just outside the project area at a fueling station southwest of the main parking area. One was for diesel fuel and the other for regular unleaded gasoline. The dispensing pumps appear to be out of commission, but it appears that the tanks have not been decommissioned. Another 1,000-gallon UST is located just east of Building 81 outside the project footprint. This UST was apparently used to fuel an emergency generator, which has been taken out of operation. The tank remains operational and is regulated.

A shed northwest of the parking area was used to store pesticides for a number of years but has been vacant since 2003. According to ALVH staff, the chemicals were kept in bulk storage on a secondary containment platform, no mixing of chemicals was done at the building, and there was no record of bulk spillage. The pesticides and herbicides were used for localized treatment of plants around the facility, and no broadcast spraying was conducted. This historic use is considered to be a low concern.

PCB-containing building components or fixtures may be present in the buildings to be demolished. Light ballasts should be assumed to be PCB-containing unless labeled otherwise, and PBS noted a number of unlabeled ballasts during the hazardous materials survey. Fluorescent light bulbs contain small amounts of mercury and require appropriate disposal. Asbestos-containing materials were found in all of the buildings to be demolished with the exception of the pesticide shed. Steam lines that run underground through the project area also likely have asbestos containing wrappings. Lead paint was found in most of the buildings to be demolished.

Environmental Consequences and Mitigation Measures

Preferred Alternative

Under the Preferred Alternative, six buildings will be demolished and site work will occur within the project area. Heating oil tanks will be uncovered during site preparation on the subject property and the tank in the electrical enclosure may be relocated. The project will use BMPs to ensure that any heating oil tanks, their contents, and accessory pipes are removed or protected without causing damage which might result in leakage. Surrounding soils and/or groundwater will be tested following tank removal to determine if the subsurface has been impacted. Any contaminated soils removed during excavation will be removed and disposed of in an approved landfill. Any regulated tanks that are removed will need to go through closure documentation with the WA State Department of Ecology.

Demolition of the buildings will result in concrete debris and solid waste which will be hauled off-site and disposed of in an approved landfill. Any identified asbestos-containing material will be abated prior to demolition activities. Handling and disposal of mercury-containing products, PCBs, lead-based paint, and other hazardous materials will be guided by the requirements of the Occupational Safety and Health Administration (OSHA) and/or the Resources Conservation and Recovery Act (RCRA).

Public health risks associated with exposure to asbestos containing materials and lead-based paint would be reduced because the new building construction materials would not include such hazardous materials. If asbestos-containing materials are used in the new building, the ALVH would be bound by the AHERA regulations and will need to prepare plans for the management of the asbestos.

Potentially hazardous or dangerous medical wastes generated by medical procedures in Building 201 will be similar to that which currently is generated in Building 81. Handling of these wastes is currently covered and will continue to be covered by a facility Bio-Safety Plan. The addition of a new 1,000 gallon above ground diesel storage tank will require an update to the EPCRA Tier II inventory for the campus.

No-Action Alternative

Under the No-Action Alternative, no buildings would be demolished and no abatement would be required. Underground storage tanks would not be disturbed. Continued adverse effects to public health caused by the presence of asbestos-containing materials and lead-containing paint in Buildings 81, 132, 50, 27, 86, and T97 ranges from negligible to minimal.

Land Use and Real Property

Land Use is the current and planned use of a subject property as determined by the governing authorities. Real Property refers to the reduction of land on the tax rolls or reduction in land value.

Affected Environment

The American Lake campus is located in unincorporated Pierce County on the Joint Base Lewis/McChord. In 1923, the Department of the Army authorized a revocable license or lease agreement allowing the Veteran's Bureau use of 377 acres of the 87,000-acre Fort Lewis property for the American Lake medical facility. Pierce County has zoned the entire military base as Urban-Military land. The ALVH is located within the north base cantonment area, which is one of the designated developed portions of the JBLM. Currently, those portions of the base immediately adjacent to the ALVH campus are relatively undeveloped; but there is planning currently under way for development of a large base housing area to the south of the campus in the near future. Between the ALVH campus and the City of Lakewood is a half mile stretch of Veteran's Drive SW within the ALVH lease area that is bounded by lawns and wooded area to the south and the privately managed American Lake Veteran's Golf Course to the north. This area along Veteran's Drive creates a buffer between the developed portion of the ALVH campus and the City of Lakewood. Residential areas within the City of Lakewood that border the ALVH campus are zoned Residential 3

and Mixed Residential 2. Some light commercial use is found in the Mixed Residential 2 zoning along Veteran's Drive.

Land use within the developed portion of campus consists of the buildings, roads, parking areas, and lawns. The portion of the ALVH lease area north and west of the developed campus consists of open fields and wooded areas. A Master Plan for the ALVH shows a phased expansion of the campus primarily to the west of the current center of the campus on either side of Veteran's Drive.

Environmental Consequences and Mitigation Measures

Preferred Alternative

With the Preferred Alternative, development will be consistent with JBLM planning designations; and the Master Plan for the ALVH and will have no impact on surrounding land uses. The new outpatient medical facility and associated improvements will be built within the boundaries of the existing VA lease, and no real property transactions are involved.

No-Action Alternative

No change in land-use or real property would occur under the No-Action Alternative.

Noise

Noise is generally defined as an unwanted sound. Sound is most commonly measured in decibels (dB). The Noise Pollution and Abatement Act of 1972 initiated a federal program of regulating noise pollution with the intent of protecting human health and minimizing annoyance of noise to the general public. The Washington State Department of Ecology (Ecology) is the regulatory authority for environmental noise in Washington State. Maximum permissible sound levels are outlined in Washington Administrative Code (WAC) Chapter 173-60. Daytime noise levels of 40 decibels (dB) are generally perceived as quiet, 60 dB as moderate, and greater than 70 dB as loud.

Affected Environment

Overall, the American Lake Campus is relatively quiet. Existing on-site noise sources consist of vehicles, motor boats on the lake, building fans, the steam plant, and maintenance or construction activities. The campus is near both McCord Airfield and Fort Lewis training areas, though not within either the aircraft flight path or the noise impact zones identified by Fort Lewis. Noise from these military sources has been ongoing since the campus was built and may occasionally be disruptive.

Environmental Consequences and Mitigation Measures

Preferred Alternative

Under the Preferred Alternative, there will be short-term construction noise impacts associated with demolition and construction activities. Actual noise levels will depend upon location, activity, type of equipment being used, number of pieces of equipment, frequency and duration of equipment operation, proximity of noise-generating equipment to each other, location within the construction/demolition area (potential echo effects that could enhance noise issues), and the distance to the person perceiving the sound. Demolition of Building 132 and Building 50 structures will create noise levels of up to 110 dB based on average

noise levels from construction sites. Table 4 shows typical construction noise levels. Demolition activities spiking to 110 dB would be sporadic and of relatively short durations. The spikes would coincide with the use of jackhammers or large demolition activities. The primary source of construction noise is often heavy equipment, such as heavy trucks. Secondary noise sources include stationary equipment, including generators and compressors. Secondary noise sources can be more intrusive at times due to the fact that they operate continuously.

Construction noise would exceed the maximum permissible sound levels presented in WAC 173-60. However, because construction noise at temporary construction sites is exempt from these rules, the proposed construction would not violate any environmental regulations. Noise levels will be highest outside the buildings in the vicinity of the construction. Patients and staff in nearby campus buildings such as Buildings 81 and 2 will be exposed to more moderate noise levels due to noise suppression from walls and windows.

Table 4. Probable Noise Levels of Common Construction Tools

Tool	Noise level will probably exceed…	Tool	Noise level will probably exceed…
Air compressor	90	Framing saw	82
Air hammer	110	Front end loader	90
Asphalt grinder	111	Generator at 50 ft	72
Backhoe	85	Grader/scraper	107
Bulldozer	87	Jackhammer	102
Compressed air gun	104	Nail gun	97
Concrete mixer truck at 50 ft	75	Paver at 50 ft	86
Concrete saw	98	Road grader	95
Dump truck	78	Steam roller	85
Excavator	80	Welding equipment	92

From: Rick Neitzel, 2005. University of Washington Department of Environmental and Occupational Health Sciences. (*Noise levels represent exposures at operator's ear, except where otherwise indicated.*)

Construction and demolition noise could be reduced by using quieter equipment, utilizing demolition/construction practices that minimize noise, turning off equipment not in use, and requiring mufflers on construction machinery. Work hours can also be restricted to avoid undue disruption. All construction-related noise issues will be short-term and will cease when construction activities are complete.

Many of the patients at American Lake suffer from post-traumatic stress disorder and may be sensitive to noise. Sudden loud noises, especially sounds associated with aircraft and munitions, can adversely impact these individuals. Construction noises could have a temporary adverse impact on these individuals. When the new Building 201 is complete, it

will have insulated and laminated glass that will dampen sound inside the building compared to noise levels patients at Building 81 currently experience. Under the proposed alternative, the existing Veteran's Drive SW between Curtis Drive and Engle Way will become a pedestrian walkway, which will significantly diminish the volume and duration of traffic noise at Buildings 201 and 81.

Building 201 will include backup generators which will operate in case of power supply failure. They will also need to be periodically tested. Generator noise is generally in the range of 60 to 70 dB near the source but can be higher. Noise from these generators will be substantially the same as existing generators at Building 81.

No-Action Alternative

Under the No-Action Alternative there will be no change in the noise levels at the campus.

Transportation and Parking

An assessment of transportation issues looks at existing vehicular traffic conditions on the property as well as surrounding traffic patterns and how these might be impacted by the project. Existing parking demand and capacity are compared with projected parking demands and capacity under the identified alternatives.

Affected Environment

Transportation

All traffic access to and from the American Lake campus is along Veteran's Drive SW, which enters the campus at the northeast corner. Most traffic coming to the ALVH is travelling north or south on Interstate 5 and would take Exit 124 to Gravelly Lake DR SW. From there, one would turn left on Washington Boulevard SW, left again on Edgewood Avenue SW, and then right onto Veteran's Drive SW. If coming from the south on I-5, there is also the option of taking Exit 119 and the Steilacoom/Dupont Road around the west edge of JBLM, exiting the base on the North Gate Road, and then taking neighborhood streets south to connect to Veterans Drive. There is currently no through connection to JBLM. Once on the campus, several smaller roads provide access throughout the campus. Veteran's Drive ends in a loop around Building 85. The north parking lot is across Veteran's Drive from the main campus. Under the current condition, there is a pedestrian hazard crossing Veteran's Drive from the parking area to Building 81. An extruded curb adjacent to Veteran's Drive also creates the potential for trip and slip hazards at sidewalk drop-off.

Bus service to the campus is provided by Pierce Transit on Route 214 from the transfer station at Lakewood Towne Center. There is also a shuttle service between the Seattle VA campus and the American Lake VA campus. A number of veterans' service organizations provide van transportation to and from the facility.

A traffic study conducted for JBLM in April 2010 in support of growth coordination on the base (Transpo Group, 2010) shows no major traffic issues on the roads servicing the campus. A portion of Gravelly Lake Drive SW is currently near capacity, but other access routes are below capacity. Projections from that study to 2030 show the interchange at Gravelly Lake Drive SW slightly exceeding capacity and portions of the Steilacoom/Dupont Road at capacity.

Parking

The parking area northwest of Veteran's Drive SW is the largest parking area on the campus and currently can accommodate 527 cars with a combination of paved and unpaved spaces. A parking lot behind the Canteen can currently accommodate 50 cars. A technical memorandum prepared for the project by Heffron Transportation, Inc., estimated that the ALVH campus would need approximately 225 additional parking spaces to service the northern portion of the campus by 2017, and approximately 400 additional parking spaces to service the same area by 2027 (Heffron, 2009).

Environmental Consequences and Mitigation Measures

Preferred Alternative

Transportation

No traffic study was undertaken for this project because the Preferred Alternative in and of itself does not result in an increase in patients or staff and, hence, no expected increase in traffic. The Preferred Alternative includes the rerouting of Veteran's Drive SW along the northern perimeter of the redesigned parking lot. The existing Veteran's Drive SW between Curtis Drive and Engle Way will become a pedestrian walkway. Rerouting Veteran's Drive SW along the northern perimeter will allow patients, staff, and guests the ability to access the new Building 201, Building 81 and other campus locations without having to cross a roadway. The pedestrian walkway will also eliminate the potential trip and slip hazards currently existing due to the extruded curb adjacent to Veteran's Drive SW. There will be a central drop-off location that will serve both Building 201 and Building 81 to make access to the medical facilities more convenient, particularly for patients arriving from group transit.

There will be some short-term traffic impacts during construction of the new ring road and parking lot. Work on Building 201 will not begin until the ring road is complete so that construction traffic can be separated from medical facility traffic. Once construction is complete, all traffic will be diverted to the ring road. The bus route will be redirected around the ring road with a new stop at the central drop-off location in front of Buildings 201 and 81.

Parking

Under the Preferred Alternative, the parking lot behind the Canteen would be eliminated; but the north parking lot would be expanded and redesigned to accommodate additional parking spaces. A net increase of 80 parking spaces, for a total of at least 650 spaces, will be available after construction. The Preferred Alternative results in a significant improvement over current parking space quantities and helps the campus reach the predicted 2017 parking demand of 750 parking spaces anticipated in this area.

There would be some short-term disadvantages because the current parking lot north of Veteran's Drive SW would not have a full capacity during construction of the ring road, and expansion of the parking lot. Construction would be staggered to maintain a reasonable number of parking spots at all times during construction. This short-term impact would be offset by the long-term benefit of 15% more parking spaces with the Preferred Alternative.

In summary, there will some short-term construction impacts to traffic and parking and a long-term benefit of increased parking and improved traffic flow and pedestrian safety.

No-Action Alternative

Under the No-Action Alternative, there will continue to traffic safety issues along Veteran's Drive. Parking will be unchanged and the predicted shortages will likely occur.

Vegetation

The Endangered Species Act prohibits actions that kill or harm species of plants that are in danger of extinction or that endanger the designated critical habitat of these species.

Affected Environment

Pre-development, vegetation communities at the ALVH lease area likely consisted of a mix of prairie, open woodlands of mixed Douglas-fir and Oregon oak, Douglas-fir dominated forest, and wetlands. The Southern Puget Sound prairies are a unique vegetation community that occur on gravel outwash plains and were maintained by native peoples through frequent burning. Only a small percent of native south Puget Sound prairie habitat remains, having been lost to development and conversion to conifer forest or woodland. Some of the largest tracts of remaining south Puget Sound prairie are found on JBLM. The Washington Department of Fish and Wildlife (WDFW) considers the glacial outwash mosaic of prairies, wetlands, oak woodlands, and lowland conifer forest to have statewide significance. Oregon oak stands are considered a priority habitat by WDFW because of their importance to several wildlife species, including the western gray squirrel.

According to the archeological inventory of the ALVH site (Amec, 2009), early maps from the 1850s show most of the site as open prairie. By the1920s, however, the developed portion of the ALVH campus appears to have been primarily coniferous forest dominated by Douglas-fir. A number of the existing forest trees were preserved during initial development, giving the campus its park-like quality. The vast majority of these preserved trees are Douglas fir (*Pseudotsuga menziesii*) with smaller numbers of Oregon white oak (*Quercus garryana*), madrone (*Arbutus menziesii*), Sitka spruce (*Picea sitchensis*), and ponderosa pine (*Pinus ponderosa)*. Photos taken during the time of campus construction show at least some of these trees to be relatively mature and likely at least 50 years old. The native understory was converted to grass lawns throughout the developed portions of the campus. The northern portion of the ALVH lease area may have been a mix of prairie, woodlands, and agricultural or grazing lands at the time of campus development. The ALVH ran a farm on much of this land from the time of opening in the 1920s through the 1960s, producing eggs, poultry, pork, mutton, fruits, and vegetables (Curtis et al., 1969). Now most of this land is open fields. A few of the old farm buildings remain.

There is no undisturbed native vegetation within the approximately 11-acre project footprint. There are some preserved Douglas fir trees south of the existing Canteen, and a larger grove of mature Douglas-fir and Oregon oak trees in the vicinity of the tennis courts between the parking lot and the golf course. Under both of these groves are regularly maintained grass lawns. A few other mature trees are found within the project footprint. To the northwest of the parking lot are the old farm fields dominated by mostly non-native grass and forb species. It appears this area is mowed occasionally but not otherwise maintained. No native prairie is present within the project footprint. Bordering Veteran's Drive on each side is a row of ornamental cherries that extends from the entrance gate to the campus, with managed lawns and scattered large trees extending out approximately 100 feet on either

side. A golf course was developed to the north of the entrance drive in 1959, and many of the original trees were also preserved in the golf course. Towards the lake and Picnic Point is native Douglas-fir forest with an intact understory that includes a shallow inlet of American Lake and associated wetland. The only other area of undisturbed vegetation in the vicinity of the project is southwest of the center of campus just west of the new Community Living Center. A large wetland referred to as Park Marsh has a mix of emergent vegetation and open water and is surrounded on three sides by native forest dominated by Douglas fir with some Oregon oak and Madrone. Both of these areas of undisturbed vegetation are more than 800 feet from the project area and separated by roads and developed areas.

Sensitive Plant Species

The United States Fish & Wildlife Service (USFWS) lists three threatened or endangered plant species in Pierce County, Washington. Two of these, Marsh sandwort (*Arenaria paludicola*) and Golden Paintbrush (*Castilleja levisecta*), had a historic presence in Pierce County but have not been verified since 1980. Marsh sandwort is presumed extirpated and the only recent documented occurrence of golden paintbrush in Pierce County is from near Olympia (Natureserve, 2010). Table 5 lists the federally listed species for Pierce County as well as Washington State listed plant species that were identified by Thomas and Carey in 1996 as being present on Fort Lewis. None of these species were identified in the immediate project vicinity.

Table 5. Federal and Washington State Listed Plant Species with a Documented Presence in the General Vicinity of the ALVH and JBLM

Common Name	Scientific Name	Federal Status	State Status	Potential at ALVH
Water howellia	*Howellia aquatilis*	Threatened	Threatened	Unlikely
White-topped aster	*Aster curtus or Sericocarpus rigidus*	Species of Concern	Sensitive	Highly Unlikely
Small-flowered trillium	*Trillium parviflorum*		Sensitive	Unlikely
Bristly sedge	*Carex comosa*		Sensitive	Unlikely

Water howellia is the only federally listed plant species that has been identified on JBLM. It is a wetland plant occurring sporadically from Washington to Montana. It is associated with prairie ephemeral wetlands in south Puget Sound and has been found in 18 wetlands on Fort Lewis. However, it has not been found in the vicinity of the ALVH, and there is no suitable habitat within the immediate project footprint. The plant requires seasonal ponding and the nearest ponded wetland is over 1,500 ft from the project.

White-topped aster is found only on open to partially wooded low-elevation prairies that have over 50% cover of native species. Since all of the project footprint and immediate surrounding areas have been previously disturbed, it is highly unlikely that this species would be found in the project vicinity.

Small flowered trillium was found on Fort Lewis in moist woodlands, often with a well-developed shrub understory on flat to gently sloping ground adjacent to lakes and streams. In the 1996 survey, none were found in the north fort area near American Lake, though it is possible that they could occur in one of the undisturbed forested areas near the lake or wetlands. There is no suitable habitat for this species within the immediate project area.

Bristly sedge has a wide distribution in the United States, but is rare in the western states. It is a wetland plant that is found in open areas with some standing water. It was found along the shores of Sequalitchew Lake and in McKay marsh in the Sequalitchew Creek drainage. It is possible that it could be present in the large wetland in the southwest portion of the campus, but there is no suitable habitat within the immediate project area.

Noxious Weeds

Washington State maintains a list of noxious weeds that pose a threat to the resources of the state. Weeds are assigned to one of four groups depending on their threat, abundance, and distribution. Class A weeds have a limited distribution in the State and eradication is required by law. No Class A weeds were identified in the project area. Class B weeds are established within some regions of Washington State but are of limited distribution or not present in other regions of the State. Control is targeted to preventing further spread. Class B weeds identified on or near the project area include Scotch broom (*Cytisus scoparius*), common catsear (*Hypochaeris radicata*), and oxeye daisy (*Leucanthemum vulgare*). Class C Weeds are already widely established and counties have discretion over control of these species. Examples of Class C weeds that may be present in the project vicinity include English ivy (*Hedera helix)*, St. Johns wort (*Hypericum perforatum*), herb Robert (*Geranium robertianum*), and common groundsel (*Senecio vulgaris*). Since most of the campus area has been actively maintained, weed species are not prevalent and are restricted to areas that are not actively maintained such as the edge of the gravel parking area.

Environmental Consequences and Mitigation Measures

Preferred Alternative

The Preferred Alternative will impact some existing vegetated areas to accommodate construction of the ring road and parking lot expansion to the northwest and construction of Building 201. No areas of previously undisturbed native vegetation will be disturbed, and no listed plant species will be impacted. Some noxious weed species are present, particularly along the edge of the parking lot. The project will remove some weed species and should not result in the further spread of these species. The biggest impact to vegetation will be the removal of a number of mature trees. A total of 50 native trees will be removed, which includes 29 Douglas firs, 20 Oregon oaks, and 1 Pacific madrone (Figure 11). Several ornamentals will also be removed. The average diameter of the trees to be removed is over 20 inches with nine of the trees over 30 inches in diameter. Some of these trees are over 100 years old.

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Figure 11: Trees to be Removed Under Preferred Alternative

VA American Lake Building 81 Replacement - Environmental Assessment

To mitigate for the loss of mature trees, approximately 50 native coniferous trees and 200 native and ornamental deciduous trees will be planted throughout the project area. In addition, to offset the loss of the priority Oregon oak trees, the VA proposes planting a grove of at least 40 Oregon oaks northeast of the ring road in the old farm area. The area would be cleared, seeded with native prairie species, and no mowing would occur. Rain gardens and landscaped areas in the project footprint will also include numerous shrubs and groundcovers. A green roof is planned for a portion of Building 201.

In summary, the project will have a moderate impact on vegetation through the removal of Douglas-fir and Oregon oak trees, some of which are over 100 years old and of substantial size. This impact will be mitigated through the planting of new trees and establishment of a grove of Oregon oak trees.

No-Action Alternative

There will be no impact to vegetation under the No-Action Alternative.

Water Resources

Water resources include surface waters, floodplains, groundwater, wetlands, and water quality. Executive Order 11988, entitled “Floodplain Management” dated May 24, 1977 (42 CFR 26971), requires federal agencies to evaluate the potential effects of actions those agencies may take in floodplains in order to avoid adversely impacting floodplains wherever possible, and to ensure that their planning programs and budget requests reflect consideration of flood hazards and floodplain management. Executive Order 11990 “Protection of Wetlands” dated May 24, 1977, (42 CFR 26961) requires federal agencies to minimize impacts of their actions to wetlands. The Safe Drinking Water Act (1974) protects drinking water sources. The Clean Water Act regulates discharges of stormwater or pollutants to waters of the United States. In addition, Section 303(d) of the Clean Water Act requires states to list all surface water bodies impaired by pollutants and, if appropriate, to prepare cleanup plans to improve water quality. The Federal agencies must show consistency with State’s Coastal Zone Management Programs (WCZMP) to the maximum extent practicable. Section 438 of the Energy Independence and Security Act requires federal agencies to meet strict stormwater runoff requirements on all new projects. The Environmental Protection Agency administers the National Pollutant Discharge Elimination System (NPDES) permits for management of stormwater during construction on federal properties in Washington State.

Affected Environment

The American Lake campus is located in the Chambers-Clover Water Resource Inventory Area (WRIA 12). This resource area includes several creeks that flow generally west into Puget Sound. Figure 12 shows the location of surface waters, floodplains, and wetlands in the vicinity of the project.

Surface Waters

The only surface water in the vicinity of ALVH is American Lake, which borders the campus and covers 1,162 acres. The lake is located in the Sequalitchew Creek watershed and is primarily fed by groundwater with some hydrologic inputs from Murray Creek on the east side, overland flow from surrounding areas, and direct precipitation. American Lake discharges to Sequalitchew Lake which, in turn, discharges either to Sequalitchew Creek

(which flows south and west through the JBLM to Puget Sound) or to a diversion canal (which crosses Sequalitchew Creek near Sequalitchew Lake). All surface runoff from the ALVH currently either infiltrates or is collected in a series of stormwater pipes, which discharge directly into American Lake. There are no streams on the campus.

Floodplains

The project area is shown on the FEMA Flood Insurance Rate Map as being in Zone C, which is an area of minimal flood hazard outside the designated special flood hazard areas and higher than the elevation of the 500-year flood with a less than 0.2 percent annual chance of flooding. The 100-year floodplain associated with American Lake is shown on the FEMA map at 236 feet above sea level and extending no more than 100 feet from the ordinary high water elevation of the lake (Figure 12). The active floodplain includes an undeveloped portion of the campus and does not extend to the project area.

Wetlands

The National Wetland Inventory shows three mapped wetlands within a ½-mile of the project footprint. North of the project area 0.4 miles is a 1.4-acre wetland. To the northeast 0.4 miles is a 0.89-acre wetland adjacent to American Lake. South of the project area 0.3 miles at the edge of the campus just west of the new nursing facility is an 11.3-acre wetland that is known as Park Marsh. Since NWI mapping only maps the larger, more easily identifiable wetlands, a site walk verified that no other wetlands were present in the immediate project vicinity.

Water Quality

American Lake is on Washington State's water quality assessment Section 303(d) list published by the Washington Department of Ecology (Ecology). American Lake was placed on the Washington State Section 303(d) list of impaired waterbodies in 1996 because of excess total phosphorus resulting in public health advisories from toxic blooms of cyanobacteria, or blue-green algae. Major contributors to the excess phosphorus in the water body are gardening practices and urban and suburban property development. The stormwater collection system at ALVH currently does not provide any water quality treatment prior to discharge to the lake. Existing sources of water quality degradation on the campus would include some sediment from runoff, heavy metals from vehicles and machinery, oils and fuels from vehicles and storage tanks, and herbicides or pesticides used in landscape maintenance activities.

Groundwater

Soil borings conducted by PBS throughout the project area encountered groundwater at a depth of 15 to 18 feet below the ground surface. This level would fluctuate seasonally. Groundwater flow direction is towards American Lake. The ALVH is located in a Pierce County, Washington mapped aquifer recharge area. Pierce County defines aquifer recharge areas as those areas where the potential for groundwater contamination is high. Currently, the recharge potential within the project footprint is limited by the fact that it is over fifty percent impervious surfaces.

Coastal Zone

Pierce County is a coastal county and, hence, is subject to the Coastal Zone Management Act under the Washington State Coastal Management Program. Despite the fact that federally owned lands are generally exempt from regulation under the act and Washington's Coastal Management Program specifically excludes Fort Lewis and, hence, the ALVH, the Coastal Zone Management Act still requires federal activities to be consistent with approved

state coastal zone management programs to the maximum extent possible. Washington's coastal program uses the Shoreline Management Act as the principal means of regulating land and water uses throughout the coastal zone. All proposed activities are outside the 200-foot shoreline management area designated around American Lake.

Environmental Consequences and Mitigation Measures

Preferred Alternative

Surface waters

The Preferred Alternative has been designed to meet the intent of federal and state stormwater regulations and will not directly impact any surface waters. The project will result in an increase in impervious surface; however, runoff volumes will be reduced through the use of low impact development techniques such that there will be no increase in stormwater discharges to American Lake. Under Section 438 of the Energy Independence and Security Act (EISA) federal projects are directed to maintain or restore pre-development hydrology of the property. Predevelopment hydrology was modeled using the Western Washington Hydrology Model, which is a continuous simulation modeling technique that meets EISA implementation guidelines. Stormwater management infrastructure design follows the Western Washington Stormwater Management Manual. Runoff from the parking lot and Building 201 area will be infiltrated through rain gardens, green roofs, bioswales, and infiltration pipes instead of being collected in stormwater pipes and discharged directly to the lake. Following construction, the project area will meet pre-development hydrology with regard to rate, volume and duration of flow. Existing impervious surfaces outside the immediate project footprint may continue to discharge to the lake.

BMPs will be installed during construction to preclude construction impacted runoff from entering the existing stormwater system and discharging to American Lake.

Floodplains

The Preferred Alternative will have no impact on floodplains. The project area is more than 12 feet higher in elevation and at least 500 feet distance from the closest point of the 100-year floodplain.

Wetlands

The Preferred Alternative will have no impact on wetlands. There are no wetlands within the project area. All of the mapped wetlands are located over a ¼-mile distance from the project and sufficiently separated by topography or developed areas that they will not be impacted by this project.

Water Quality

The low impact development techniques mentioned above will result in a net improvement to water quality. Instead of discharging untreated stormwater directly to the lake as was previously the case, all stormwater from the project area will filter through bioswales, rain gardens, roof gardens and stormwater filter units. The stormwater design will ensure compliance with Washington State's water quality standards for surface waters (WAC Chapter 173-201A) and groundwater (WAC Chapter 173-200). The landscaping plan for the Preferred Alternative has been designed along sustainability guidelines and will not require

high levels of fertilization or irrigation. The proposed project is not anticipated to increase the phosphorous concentration in American Lake.

A new aboveground diesel fuel tank is proposed as part of the project and will be designed to include a secondary containment system built into the tank structure with sufficient capacity to contain a sudden discharge of the entire contents of the tank if the tank were filled to capacity. The campus Spill Prevention Control and Countermeasure Plan will need to be updated to include this tank.

During construction, the project will be covered by EPA's Construction General Permit # WAR10000F under the NPDES program, or the equivalent permit in effect at the time of construction. A Temporary Sediment and Erosion Control (TESC) Plan and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to construction. The Contractors on site will be required to utilize best management practices (BMPs) to control erosion and sedimentation and prevent any construction impacted runoff from leaving the site. All temporary erosion control systems will be designed to contain the runoff from at least the two year, 24-hour design storm event. BMPs may include silt fence, temporary sealing of catch basins, retention ponds or baker tanks, and covering of exposed soils when not being worked. Construction activities can also be phased such that minimal soil is exposed during the rainy season. Because the site is relatively flat, there is little opportunity for erosion.

Construction with fresh concrete and demolition of concrete debris can result in high pH runoff. Containment of concrete washout water will prevent off-site discharge and potential impacts to water quality. Ecopans will be placed underneath concrete trucks during pours to prevent leaking concrete and concrete washout water from entering storm drains or leaching into ground water. Demolished concrete debris can be stored in lined pits or containers to prevent water coming in contact with concrete and migrating off-site. Any potentially contaminated runoff from concrete work or other sources will need to be contained and transported to an approved off-site disposal area.

Groundwater

Impervious surface will increase under the Preferred Alternative; but most of the potential run-off from the project footprint will be infiltrated, resulting in either no change or a slight increase in recharge capacity of the site. Rain gardens and storm filters will filter pollutants from the parking lot before discharge to the groundwater.

Coastal Zone Consistency

The project is outside the shoreline management zone of American Lake and is otherwise consistent with the provisions of the Washington State Coastal Zone Management Program. There will be no adverse impacts to coastal zone resources as a result of this project.

In summary, the project will have no impact on floodplains or wetlands and is consistent with Coastal Zone protection goals. Impacts to surface waters, water quality, and groundwater will be avoided through the implementation of BMPs during construction and the incorporation of permanent stormwater management facilities that are designed to infiltrate most of the runoff from new impervious surfaces and/or filter potential pollutants.

No-Action Alternative

Under the No-Action Alternative, there will be no impact to any water resources. Stormwater will continue to discharge directly to the lake.

American Lake VA Hospital

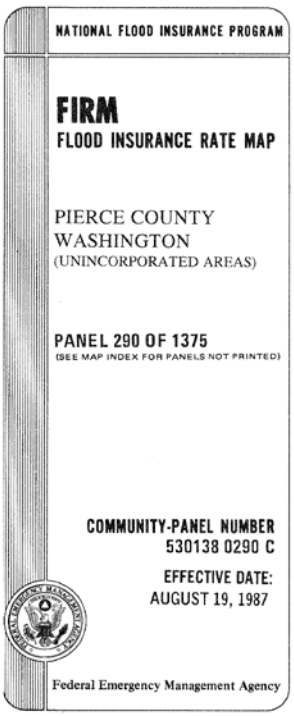
Nov 19, 2010

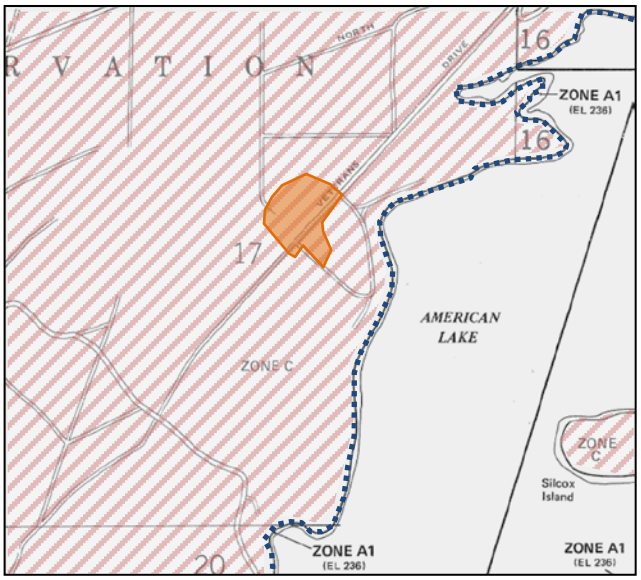
Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine

N

Project Area





Zone A1: Areas of 100-year flood
Base flood elevation determined to be 236 feet

Zone C: Areas of minimal flooding

PBS

Figure 12: Waters/Wetlands/Floodplains in the Vicinity of the ALVH

VA American Lake Building 81 Replacement - Environmental Assessment

Wildlife and Wildlife Habitat

The Endangered Species Act prohibits actions that kill, harm, or harass species of fish or wildlife that are in danger of extinction, or that endanger the designated critical habitat of these species. The Migratory Bird Treaty Act (1918) makes it illegal to “take” migratory birds or their eggs, feathers or nests. The Bald Eagle Protection Act of 1940 prohibits the taking, possession, or commerce of both bald and golden eagles. The state of Washington Department of Fish and Wildlife identifies Priority Habitats and Species that warrant additional protection or special management. Information on sensitive species was obtained from National Marine Fisheries, the U.S. Fish and Wildlife Service, and the Washington Department of Fish and Wildlife.

Affected Environment

The ALVH is located at the north edge of the 81,000-acre JBLM. Much of the land within the base is undeveloped and provides habitat for a large number of wildlife species. According to Army surveys, 20 species of reptiles and amphibians, 200 species of birds, 50 species of butterflies, and 50 species of mammals are present on the base (Army, 1994). The ALVH site likely supports a much smaller compliment of species due to its size, location, and degree of development.

Several species listed by the Federal and State agencies as warranting special protection have a documented presence on or near JBLM. Some species listed by the agencies as having a presence in Pierce County would be restricted to the Cascade Mountains, if present in the county at all, and are not found in the vicinity of the project area. These species include the Canada lynx (*Lynx Canadensis*), gray wolf (*Canis lupus*), grizzly bear (*Ursus arctos*), California wolverine (*Gulo gulo luteus*), and Cascades frog (*Rana cascadae*). The fisher (*Martes pennanti*) has likely been extirpated from the state (NatureServe Explorer, 2010). Some of the other species listed for Pierce County are associated with large old-growth tracts or mountain streams, neither of which occurs at the ALVH site. Site-specific information on priority habitats and species was ordered from the Washington Department of Fish and Wildlife (WDFW) in December of 2009 and again in November of 2010. Within the project vicinity, identified habitats and species remained the same from 2009 to 2010. We also consulted with the US Fish & Wildlife Service but they had no concerns over federally listed species on this site. Table 6 includes those sensitive wildlife species that could possibly be present in the immediate vicinity of the ALVH or which have a documented presence in the general area and could possibly be affected by direct, indirect, or cumulative impacts associated with the project.

Table 6. Sensitive Wildlife Species Identified in the Vicinity of Project Area

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Presence at ALVH
Invertebrates				
Taylor's checkerspot	*Euphydryas editha taylori*	C	E	Unlikely
Mardon skipper	*Polites mardon*	C	E	Unlikely
Valley silverspot	*Speyeria zerene bremeri*	SC	C	Unlikely
Fish				
Bull trout	*Salvelinus confluentus*	T	C	Proximate
Chinook Salmon	*Oncorhynchus tshawytscha*	T	C	Proximate
Lower Columbia River steelhead	*Oncorhynchus mykiss*	T	C	Proximate
Amphibians				
Leatherback sea turtle	*Dermochelys coriacea*	E	E	Proximate
Pacific pond turtle	*Actinemys marmorata*	SC	E	Unlikely
Oregon spotted frog	*Rana pretiosa*	C	C	Unlikely
Western toad	*Bufo boreas*	SC	C	Possible
Mammals				
Southern resident killer whale	*Orcinus orca*	E	E	Proximate
Humpback whale	*Megaptera novaeangliae*	E	E	Proximate
Steller sea lion	*Eumetopias jubatus*	T	T	Proximate
Western Gray Squirrel	*Sciurus griseus*	SC	T	Possible
Mazama pocket gopher	*Thomomys mazama ssp. glacialis and tacomensis*	C	T	Possible
Long-eared myotis	*Myotis evotis*	SC		Possible
Long-legged myotis	*Myotis volans*	SC		Possible
Townsend's western big-eared bat	*Corynorhinus townsendii townsendii*	SC	C	Possible
Birds				
Northern goshawk	*Accipiter gentilis*	SC	C	Unlikely
Marbled Murrelet	*Brachyramphus marmoratus marmoratus*	T	T	Proximate
Yellow-billed cuckoo	*Coccyzus americanus*	C	C	Unlikely
Streaked horned lark	*Eremophila alpestris strigata*	C	E	Unlikely
Peregrine falcon	*Falco peregrinus*	SC	S	Possible
Bald Eagle	*Haliaeetus leucocephalus*	SC	S	Yes
Oregon vesper sparrow	*Pooecetes gramineus affinis*	SC	C	Unlikely
Northern spotted owl	*Strix occidentalis caurina*	T	E	Proximate

1. Federal and state status codes: E=Endangered, T=Threatened, C=Candidate, SC=Species of Concern

Invertebrates

Three species of listed butterflies have been identified on JBLM. The mardon skipper and the Taylor's checkerspot butterfly are both very rare in the Puget Sound area and are associated with relatively intact native prairie habitats. Both have been identified on Fort Lewis near the artillery impact area, but not in the north fort area near the ALVH. The Valley silverspot is not as dependent on native prairie but requires the presence of native violets. It has been found near some of the larger prairie sites at JBLM but, again, is likely not present near the ALVH due to lack of available habitat.

Fish, Amphibians, & Reptiles

No federally listed fish species are present in American Lake or in the upper reaches of Sequalitchew Creek which drains out of the lake. Chinook salmon are present in Puget Sound, the Nisqually River, and possibly the lower reaches of Chambers Creek and Sesquilitchew Creek. Winter steelhead trout have a documented presence in Puget Sound and Chambers Creek. Bull trout have a historic presence in the Nisqually River and may be present in Puget Sound but have not been identified recently in the immediate vicinity. Species that are present in American Lake include rainbow trout (*Oncorhynchus mykiss*), kokanee salmon (*Oncorhynchus nerka*), cutthroat trout *(Oncorhynchus clarki*), largemouth bass (*Micropterus salmoides*), yellow perch (*Perca flavescens*), rock bass (*Ambloplites rupestris*), brown bullhead (*Ameiurus nebulosus*), and black crappie (*Pomoxis nigromaculatus*). Rainbow trout, Kokanee salmon, and resident cutthroat trout are all Washington State priority species.

The leatherback sea turtle is an ocean going species that has a world-wide distribution. It is rarely seen in Puget Sound. The Pacific pond turtle is associated with shallow ponds and wetlands. A few individuals have been identified in Pierce County in the last several years, but it is unlikely that a viable population exists in the vicinity of the ALVH. The Oregon spotted frog was also believed to be extirpated but is being re-introduced to JBLM (Wildlife extra.com 2009). Even if the reintroduction is successful, it is unlikely the frog will spread to the ALVH for a number of years.

Mammals

The marine mammals listed by NOAA Fisheries as having a presence in Puget Sound include the southern resident killer whale, the humpback whale, and the stellar sea lion. ALVH is approximately 2.5 miles from Puget Sound. The primary connection the site has to Puget Sound is that sewage from the site is discharged to Puget Sound after being treated at the JBLM sewage treatment plant at Solo Point. There is also a surface water connection from American Lake down Sesqualitchew Creek to the Sound.

The western gray squirrel is generally associated with the oak and conifer woodlands in this area and there continues to be a small population on JBLM, but this apparently has declined dramatically in recent years (Bayrakçi et al, 2001). A western gray squirrel was sighted in 1978 at the base of a large fir tree fronting the golf course on the north side of Veteran's Drive inside the hospital grounds. In 1986, eastern gray squirrels were occupying the site, but WDFW felt that there might still be potential for western gray squirrels to reclaim this area. WDFW was contacted regarding the potential for western gray squirrels to be present at the project site, and their opinion was that the level of disturbance was too high for the squirrels to be present (Kunz, 2010; personal communication).

The Mazama pocket gopher has been documented on JBLM and, though historically associated with native prairies, will occupy other grassland sites and disturbed prairies. While there is no documented current presence on the ALVH lease area, there is some potential habitat in the northern part of the lease area. No evidence of pocket gophers was found near the project site.

Several bat species are listed as sensitive species in this area, and all have been documented on Fort Lewis. It is possible these bats are present at ALVH, although no obvious suitable nesting or roosting habitat was observed. Bats generally utilize caves, barns, abandoned buildings, and bridges.

Birds

The yellow-billed cuckoo is believed to be extirpated from the area. The streaked horned lark and the Oregon vesper sparrow are associated with native prairie habitats and may be present in the area; but it is unlikely they would use the ALVH site, as there is little if any remaining native prairie in the vicinity. Bald eagles were delisted under the Endangered Species Act in 2007 but are still protected under the federal Bald Eagle Protection Act, the Migratory Bird Treaty Act, and the Washington State Bald Eagle Protection Act (RCW 77.12.655). There are a number of eagle nests along the shores of American Lake with four nests within a ½-mile of the project area. Three nests are located north of the campus in the forested area at Picnic Point northeast of the campus. One nest is located south of the new nursing building along the lake. None of these nests are within 1,000 feet of the project area. A Washington State designated eagle management zone extends 250 feet inland from the shore of American Lake. None of the project area is included in this buffer.

A great blue heron rookery is identified on the WDFW priority species and habitat map as being present in the large wetland known at Park Marsh south of the project area. Over 75 nests were documented in 2000 (WDFW, 2010), but apparently the number of active nests has declined dramatically. The construction of the new nursing facility immediately adjacent to the rookery may have been a contributing factor. A number of nests are still present in the trees at the southern end of the wetland, but we do not know how many were actively used in 2010. If an active heron nest is present at the time of construction, Washington State restricts logging or heavy construction within 3,280 feet of the nest from February 15 to July 31. This buffer would include the entire project area.

JBLM is considered important as a corridor for marbled murrelets between coastal feeding grounds and nesting grounds in the Cascades. It is also considered important for spotted owls as a strategic location between Olympic Peninsula populations and western Cascade populations. However, no spotted owls or marbled murrelets have been seen on JBLM for many years, and it is highly unlikely that either spotted owls or murrelets would utilize the ALVH campus. The same is true of northern goshawks, which occupy similar habitats to the spotted owl.

Other sensitive bird species that have a documented presence near the site include band-tailed pigeons and peregrine falcons. American Lake also supports priority waterfowl concentrations. Pierce County is within the Pacific flyway for migratory birds. Migratory birds may pass through the ALVH while traveling between breeding areas to the north and wintering areas to the south or they may winter or breed at the ALVH.

Critical and Priority Habitats

JBLM was excluded from the designated critical habitat for federally listed species through the National Defense Authorization Act of 2004. The act allows military installations to avoid critical habitat designations as long as they have an approved Integrated Natural Resources Management Plan (INRMP) in place that provides a similar benefit to the species under consideration. Species that have critical habitat designations in the vicinity of the ALVH include bull trout, Chinook salmon, steelhead trout, marbled murrelets, and northern spotted owls. None of these species have a documented presence in the immediate vicinity of the ALVH.

As mentioned in the vegetation section, the southern Puget Sound Prairies are considered a priority habitat. A number of the species listed in Table 6 are associated with native prairie habitats. These include the three listed butterflies, the Mazama pocket gopher, the streaked horned lark, and the Oregon vesper sparrow. No undisturbed prairie remains in the immediate vicinity of the project area.

The mixed oak/Douglas-fir stand near the tennis courts is identified in the WDFW habitat and species report as priority oak habitat. The stand does include a number of mature Oregon white oak trees, but grass lawn has replaced the native understory. The stand is located between Veterans Drive, the parking lot, the tennis courts and the golf course and likely provides only limited habitat value.

Wetlands are also considered priority habitats and the three nearby wetlands likely provide habitat for a number of wildlife species. None of these wetlands is within 1,000 feet of the project site.

Environmental Consequences and Mitigation Measures

Preferred Alternative

The Preferred Alternative is not expected to have an impact on any federally listed threatened or endangered species. Marbled murrelets, bull trout, Chinook salmon, lower Columbia River steelhead trout, leatherback sea turtle, southern resident killer whales, humpback whales, and stellar sea lions all potentially use the waters of Puget Sound west of the ALVH. Although the ALVH discharges sewage to Puget Sound through the JBLM treatment plant at Solo Point, the sewage is treated before release; this project does not result in a significant increase in staff or patients and, hence, no measurable increase in sewage discharge.

Most of the project footprint is currently parking lot, roads, buildings and lawns, with no undisturbed native vegetation and a relatively high level of human activity. Wildlife species that currently utilize the site are likely mostly urban-adapted species that are tolerant of human activity. The noise associated with construction could cause temporary disruption to wildlife in the vicinity, which are likely to simply avoid the area during construction. Removal of mature trees could impact species that use these trees for roosting, nesting, feeding, or cover. WDFW has determined that western gray squirrels are not likely to be in the project site. Eagles may use some of the larger trees for perch or roost trees. Migratory birds are likely to nest or roost in the trees. To minimize impacts to migratory birds, trees to be removed will be cut down outside of the active nesting season during the fall or winter months. Currently, all eagle nests are far enough away from the project site that they are not

likely to be impacted by the project. No construction will occur within 250 feet of the shoreline of the lake where eagles may forage. Prior to construction, trees within and immediately proximate to the project area should be surveyed again for new eagle nests. The heron rookery should also be inspected for active nesting prior to construction. If great blue herons are nesting at the rookery, WDFW should be contacted regarding specific measures the project could take to minimize disruption.

Fish species in American Lake should not be impacted by the project. During construction, best management practices will be employed to prevent runoff from exposed soils reaching the lake through the storm drain system or direct runoff. Following construction, most runoff from the project area will be infiltrated in rain gardens and underground pipes, greatly reducing the potential for turbid or contaminated water reaching the lake through the storm system.

Once the new medical facility is built, the impacts to wildlife will be very similar to that which currently exists. Planting a grove of Oregon oak trees away from the campus will provide potential habitat for the western gray squirrel and other species away from human activity.

No-Action Alternative

There will be no impacts to wildlife or wildlife habitat under the No-Action Alternative.

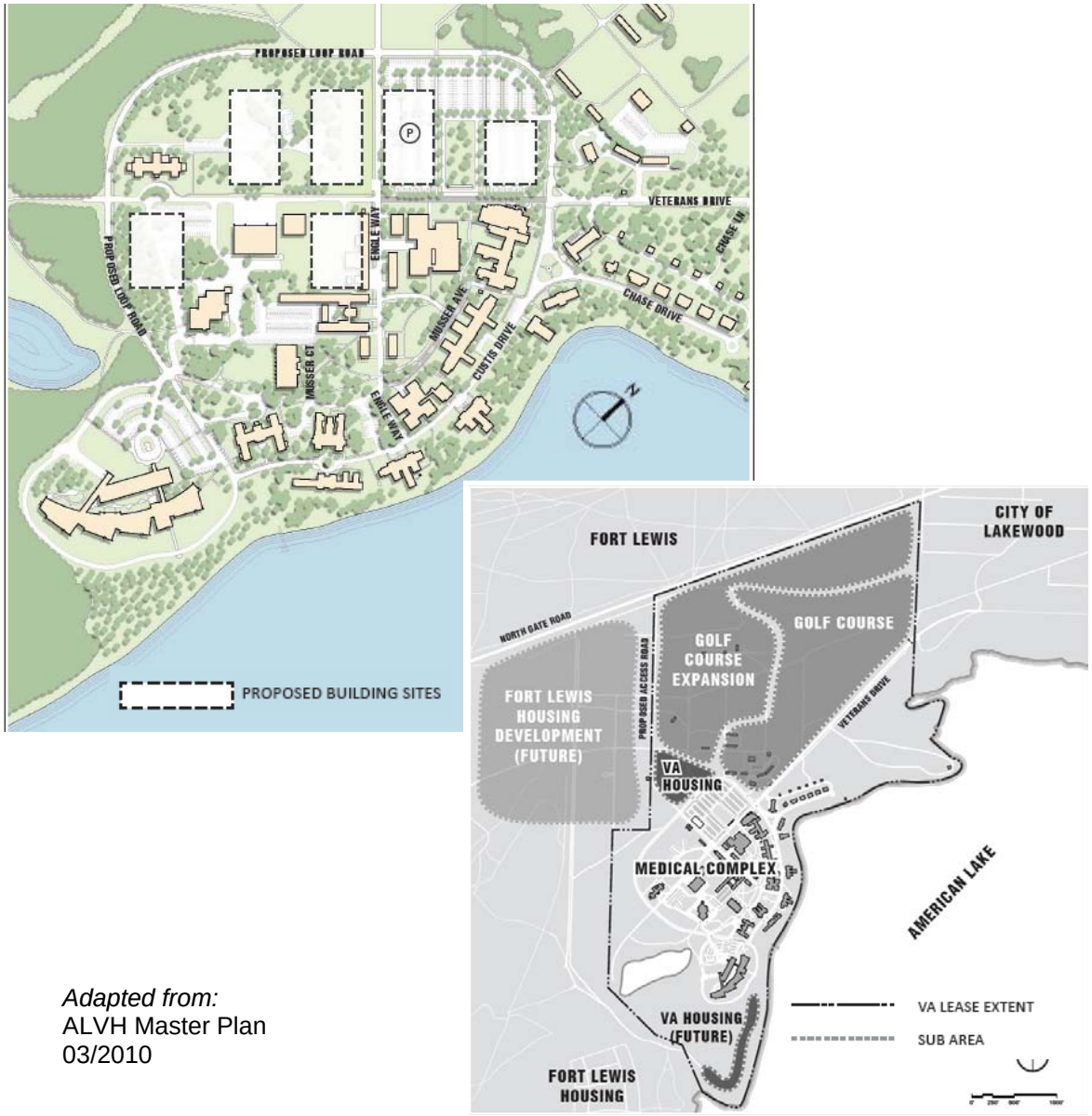
Cumulative Impacts

Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). The Council on Environmental Quality regulations for implementing NEPA requires an assessment of cumulative effects during the decision-making process for federal projects.

Affected Environment

The American Lake campus has undergone a number of changes since first established over 80 years ago. New buildings have been added and most of the original buildings have undergone one or more renovations. There has been little development in the immediate vicinity outside the campus due to the campus’ isolated location at the edge of JBLM. Throughout this time, the campus has managed to retain much of its original feel. However, as the historic buildings age, it has become increasing difficult to deliver first class medical services in these older buildings. The ALVH has been addressing the seismic risk and aging infrastructure of the buildings through retrofitting and relocation of services. In 2009, the VA completed a 78,000-square-foot nursing home care unit and dietetics kitchen on the southern edge of the campus to replace aging and seismically deficient facilities in Building 2. While impacts from that project were not considered significant, it was a major project and does contribute to an analysis of cumulative impacts for the proposed project. There are also several projects planned for the near future that could contribute to cumulative impacts at the campus. Installation of a geothermal heat exchange system has been approved with well fields in the north parking area and in the center of campus. A FONSI was issued for that project on August 1, 2011 (VA, 2011) and construction is set to occur prior to construction of Building 201. The Army is considering a major expansion of personnel at JBLM which would include a large housing development near the west edge of the ALVH.

The VA has plans to develop additional housing for homeless vets and will continue to expand the campus, as needed, to meet anticipated increases in demand for veterans' medical services. The proposed ground sourced heat exchange system proposed for Building 201 may be expanded to serve other buildings, or a lake-based system installed. The golf course is planning on a major expansion to the north, and there are plans to build a road connection from the new ring road to the north entrance of JBLM in the near future. Figure 13 is taken from the ALVH Master Plan shows some of these planned developments.



Adapted from:
ALVH Master Plan
03/2010

PBS

Figure 13: Planned Future Development at or Near ALVH

VA American Lake Building 81 Replacement - Environmental Assessment

Environmental Consequences and Mitigation Measures

Preferred Alternative

Cultural Resources

Within the designated historic district, there has been an incremental loss of historically significant elements within the existing buildings as a result of renovations and remodeling. Until recently, there was little attention paid to preserving the historic integrity of the buildings and campus environment. The Preferred Alternative includes the construction of a modern building within the historic district and demolition of several buildings which, while not historically significant, contribute to the overall character of the historic district. These activities certainly contribute to a cumulative impact on the historic district. However, they also allow for the continued viability of the campus; including the preservation and re-use of Buildings 2 and 81, both significant historic structures. The project triggered the development of a campus preservation plan, which will ensure that future development is consistent with the historic character of the campus.

Biological Resources

While the Preferred Alternative mostly impacts previously developed land, it does include an expansion to the northwest into some vegetated areas to accommodate the parking lot and ring road. There will be an associated decrease in vegetated area and the loss of some mature and priority trees. No native prairie habitat has been present at the ALVH for many years, and the project does not impact any of this rare plant community. Neither is the project expected to contribute to cumulative impacts to federally protected plant or animal species, since none have a documented presence in the immediate vicinity. The recent completion of the Community Living Center expanded the campus to the southwest and contributed to a loss of wildlife habitat and a large increase in impervious surface. Future development both on and adjacent to the campus will continue to reduce open space and potential wildlife habitat. While the mature trees removed under the Preferred Alternative will be replaced at a ratio of approximately 5 to 1, it will be a very long time before they reach the same stature. The project triggered the development of a campus Master Plan which will guide future development and the long-term management of trees and vegetation on the campus. The Master Plan will allow for needed expansion while still preserving the park-like setting of the campus.

Water Resources

The Preferred Alternative results in an increase in impervious surface which, when combined with past and future development, could be expected to contribute to a cumulative impact on groundwater recharge and surface runoff. However, because the project has followed EISA Section 438 design guidance and used low impact development practices such as rain gardens, a green roof, and infiltration pipes, there will be no negative cumulative impact to water resources under the Preferred Alternative.

Social Resources

The elimination of seismic risk at Building 81 and the construction of a modern medical facility that also can serve as a community emergency center will have a positive impact on quality of life for patients, staff, and the larger community.

Economic Resources

The Preferred Alternative is not expected to contribute significantly to economic resources in the vicinity. The minimal increase in jobs and use of materials during construction may provide a short-term benefit when combined with other projects in the vicinity. In general, however, the economy of the region is driven by larger scale economic factors.

Infrastructure

The Preferred Alternative is closely linked to several other campus projects past, present, and future that will ultimately lead to an expansion of services and a fully occupied new building (Building 201) as well as full occupancy of Buildings 2 and 81. The cumulative impact is an increased demand on power, water, electricity, sewage, etc., and an increase in parking demand. All of the utilities provided by Fort Lewis are currently operating well below capacity, and any increased demand on utilities at the ALVH in the foreseeable future will be incremental and relatively minor compared to utility use on the base. A major expansion of JBLM would likely trigger the need for some utility and infrastructure upgrades or expansions.

Although the Preferred Alternative does not in and of itself contribute to greater traffic or parking demand, the gradual expansion of the ALVH over time has resulted in an increase in traffic along Veteran's Drive within the campus, which has created more of a safety hazard for people accessing the campus from the north parking lot. The addition of the ring road will address this issue and improve traffic flow through the campus. Parking shortages are predicted over the next ten years, and the project has been designed to accommodate this increase in parking demand through the expansion of the parking lot. The cumulative impact of increased traffic flow into the ALVH has the potential to impact roads in the Lakewood Community. It may eventually be necessary to address these traffic impacts. The proposed addition of a connection to the north base road in the future would help alleviate traffic congestion along Veteran's Drive in Lakewood.

In summary, cumulative impacts under the Preferred Alternative are minimal and largely offset by mitigation measures.

No-Action Alternative

Under the No-Action Alternative, the life safety risk to patients and staff in Building 81 will continue to increase and the ability of the VA to deliver critical outpatient medical services will also diminish as the building ages. Projected parking shortages and traffic safety issues are likely to get worse. The result of no action could be that the VA would have to discontinue outpatient services at American Lake, either temporarily or permanently. This, in turn, could have a significant detrimental cumulative impact on the preservation of the historic district and potentially have a cumulative impact on the population of veterans who use the facility.

Potential for Generating Significant Controversy

The proposed project seeks to remedy existing deficiencies in Building 81 that compromise the Veteran's Administration's ability to deliver high quality medical services in an environment that protects the safety of patients and staff. The ALVH campus is sufficiently removed from surrounding communities, such that activities on the campus have relatively little impact outside the campus. This is especially true since the project does not involve a

major expansion of services or staff. There has been no indication of opposition to the proposed project from local agencies, community members, or any other local organizations. Veterans who use the ALVH will benefit from a modern medical facility and improved parking and traffic.

The most significant impact associated with the proposed project is the demolition of several historically contributing structures and the construction of a modern facility within a designated historic district. The VA has worked closely with SHPO and other interested parties throughout the planning of the project to make sure issues related to the historic district are addressed and appropriate mitigation measures incorporated into the project. One of the benefits of the project is that it will result in a revitalization of Building 2 and lead to eventual retrofitting and use of Building 81, preserving both of these important historic buildings.

No other project related impact is likely to cause significant controversy.

Summary of Mitigation Measures

A number of mitigation measures are proposed to offset potential impacts from the proposed project. During project construction, best management practices will be employed to minimize temporary impacts to sensitive resources such as air quality, soils, noise, and water quality. Other proposed mitigation measures are discussed below:

Aesthetics

The new outpatient medical facility will be designed to complement the existing historic buildings utilizing materials and construction consistent with the historic nature of the surrounding campus. The removal of the Canteen Building, creation of a pedestrian plaza and improvements to the parking lot will improve the aesthetics of the campus entrance. Landscaping, including the planting of over 250 trees will mitigate impacts associated with removal of mature trees.

Cultural Resources

Mitigation measures include development and implementation of a campus wide preservation plan, formation of an American Lake Design Advisory Committee, SHPO oversight of Building 201 design for consistency with the historic district and federal standards, SHPO review of building and landscape plans for conformity to the historic district, re-use and rehabilitation of Buildings 2 and 81 following SHPO review and approval, archeological survey and report prior to ground disturbance of all areas to be disturbed, archeological monitoring during excavation, documentation of all historic structures to be demolished, and development of an exhibit documenting ALVH history to be installed in Building 2.

Resident Population

All patient and staff services currently housed in the Canteen Building will be relocated to Building 2 prior to demolition of the Canteen. Additional gathering places for patients, staff and visitors will be provided in Building 201.

Hazardous Materials

Abatement of asbestos containing materials will occur prior to demolition of any buildings where this material has been identified. Soils in the vicinity of all disturbed underground storage tanks will be inspected for potential contamination. The new 1,000 gallon above ground storage tank will be added to the EPCRA Tier II Inventory.

Transportation and Parking

The project will add 80 parking spaces and improve pedestrian safety. Construction will be phased to reduce impacts to traffic flow and parking during construction.

Vegetation

As mitigation for the loss of 50 mature trees, 50 native conifers and 200+ deciduous trees will be planted as part of the project. A grove of at least 40 Oregon oak trees will be planted in a grove north of the campus in an area protected from future growth.

Water Resources

Section 438 of EISA requires all new federal facilities to design stormwater management facilities that will maintain or restore pre-development hydrology. To meet this goal and as mitigation for the increase in impervious surface, the project will install rain gardens, infiltration pipes, infiltration planters and a roof garden. These measures will insure that new impervious surfaces do not contribute to an increase in stormwater runoff. Raingardens and stormwater filter units will provide water quality treatment prior to infiltration to the ground water. The project has been designed to insure that stormwater discharges do not violate Washington State's surface water quality standards (WAC Chapter 173-201A) or groundwater quality standards (WAC Chapter 173-200). During construction, the project will operate under a construction stormwater NPDES permit and use best management practices to prevent any construction related runoff from leaving the site or impacting groundwater. All temporary erosion control systems will be designed to contain the runoff from at least the two year, 24-hour design storm event. Secondary containment will be provided for the new 1,000 gallon diesel storage tank and the campus SPCC plan will be updated to include this tank.

Wildlife

All trees to be removed will be cut down outside of migratory bird nesting season. Construction timing restrictions may apply if herons or eagles are nesting in the project vicinity.

Environmental Permits/Notifications/Modifications

Table 7. List of Environmental Permits, Notifications and Modifications

Permit Name	Agency	Activity	Requirements
National Pollution Discharge Elimination System(NPDES) Permit *WAR10000F or equivalent*	Environmental Protection Agency	Construction stormwater management	Preparation of a SWPPP- *Stormwater Pollution Prevention Plan*
Spill Prevention Control and Countermeasure (SPCC) Plan	Environmental Protection Agency	Diesel storage tank	Update existing SPCC Plan
Emergency Planning and Community Right-to-Know Act (EPCRA) Tier II Inventory	Washington State Department of Ecology	Diesel storage tank	Update existing Tier II Inventory
Asbestos Removal Notification	Puget Sound Clear Air Agency	Demolition of Asbestos Containing Materials	Obtained by contractor
Underground Storage Tank Closure Permit	Washington State Department of Ecology Tacoma-Pierce County Health Department	Underground Storage Tank Decommission or Removal	Notification Form

Conclusions

The VA has identified construction of a new 70,000 gross square foot modern outpatient medical facility at ALVH as the preferred alternative for addressing the current seismic risk associated with delivery of medical services in Building 81. No other viable alternative was identified. The new building (Building 201) would house most of the programs currently located in Building 81. This alternative would allow outpatient medical services at American Lake to be delivered in a state of the art medical facility that could also serve as a regional disaster center. Veterans Drive in front of Buildings 201 and 81 would be turned into a pedestrian mall with traffic diverted around the parking lot on a new ring road. The existing parking lot would be expanded with eighty additional parking spaces.

Since the Preferred Alternative includes the construction of a new building within a designated historic district and the demolition of several buildings listed as contributing to the historical significance of that district, VA entered into consultation with the State Historic Preservation Office. SHPO has approved a memorandum of agreement that stipulates a number of required mitigation measures. These include review of final plans, phasing the project to maintain critical services, the long-term preservation and re-use of Buildings 2 and 81, documentation of all historic facilities prior to demolition, surveying and monitoring excavation areas for archeological resources and development of an exhibit on the history of the American Lake Veterans Hospital and historic district. Adherence to these measures will mitigate the impacts to the cultural resources.

Other environmental impacts associated with the project are mostly minimal and include some short-term construction impacts, removal of some mature trees, and an increase in impervious surface. Additional mitigation measures include planting new trees, installing rain gardens and infiltration pipes and timing of tree removal to avoid disturbance to nesting birds.

Based on the information and analysis presented in this Environmental Assessment, the VA has determined that there are no significant environmental impacts associated with the construction and operation of a new medical facility at the American Lake Veterans Hospital campus. A full Environmental Impact Statement is therefore not required and a Finding of No Significant Impact will be issued.

Public Involvement

Individuals Contacted

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Notice of Availability

Below is a copy of the confirmation of publication and Notice of Availability as it ran in the Tacoma News Tribune.

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Ad Order Confirmation

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Ad Order Number	0001267099	**Ad Number**	0001267099-01
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NOTICE OF AVAILABILITY
Draft Environmental Assessment
U.S. Department of Veterans Affairs
American Lake Veterans Administration Hospit
Building 81 Seismic Replacement Project
Pierce County, WA

The U.S. Department of Veterans Affairs (VA) announces the preparation and availability of a Draft Environmental Assessment (DEA) for the proposed construction of a new 70,000 gross square foot outpatient medical building at the American Lake Veterans Hospital (ALVH) campus located on the grounds of Joint Base Lewis McChord in Pierce County, WA. The proposed new building would address serious seismic deficiencies in the existing main hospital Building 81, improve the delivery of medical services to veterans at the ALVH, and allow the ALVH to serve as a regional disaster center. All medical services currently housed in Building 81 would move to the new building with the exception of ambulatory care and radiology services which would remain in the newer additions to Building 81. Building 81 would remain in place as a historically significant structure and eventually be seismically updated for use as offices. The existing Canteen and five utility buildings would be demolished to make room for the new medical facility. Improvements to parking and pedestrian safety are also proposed to support this project.

A draft environmental assessment for the proposed project was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of the Department of Veterans Affairs (38 CFR Part 26). The DEA examines the potential for environmental impacts from the proposed action. The VA intends to issue a "Finding of No Significant Impact" (FONSI) following a thirty-day comment period in accordance with the Council on Environment Quality Regulations for Implementing NEPA, Section 1508.13, provided there are no substantive comments which warrant further evaluation.

A digital copy of the DEA is available for viewing or downloading at the following web address: http://www.pugetsound.va.gov/Notices_of_Availability.asp. Hard copies will also be available at the Tillicum Library at 14916 Washington Ave. SW, Lakewood, WA 98498. Comments or questions may be directed in writing to: VA Puget Sound Health Care System via mail at Mailstop S-00PA, 1660 South Columbian Way, Seattle, WA 98108, fax at 206-764-2250, or e-mail at publicaffairspugetsound@va.gov. Please reference "ALVH Building 81 EA" in any correspondence. All comments on the DEA are requested by November 7, 2011.

Public Comments Received

The public comment period for the Draft EA extended from October 01, 2011 to November 07, 2011. A Notice of Availability for the EA was published in the Tacoma News Tribune on three consecutive days from October 1st , 2011 through October 3rd, 2011. Hard copies were mailed out to reviewers on October 1st, 2011. A hard copy was made available at the Tillicum Public Library in Lakewood, WA and an electronic copy was made available on the VAPSHCS website. A total of two comments were received during the public review period.

Comments were received from:

1. Bill Van Hoesen, NEPA Program Manager, Public Works Environmental Division, Joint Base Lewis McChord, Washington. (via e-mail November 4, 2011)
   Attachments: DoD and Army policy letters for EISA compliance

2. Washington State Department of Ecology, Southwest Regional Office
   Comments provided by Mike Drumright, Water Resources; Sonia Mendoza, SEPA; and Stephanie Jackson, Water Quality (letter dated November 7, 2011)

All comments were considered by the VA and revisions were made to the Final EA, as appropriate. The comments and responses are included in Appendix B

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List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ALVH	American Lake Veterans Hospital
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
CAMS	Capital Asset Management Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
CZM	Coastal Zone Management
dB	Decibels
DoD	Department of Defense
EA	Environmental Assessment
Ecology	Washington Department of Ecology
EHR	Extremely high risk
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FRM	Federal Reference Method
GSF	Gross square feet
HR	High risk
HVAC	Heating, Ventilating, and Air Conditioning
INRMP	Integrated Natural Resource Management Plan
JBLM	Joint Base Lewis-McChord
kV	Kilovolt
LEED	Leadership in Energy and Environmental Design
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NO2	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
Pb	Lead
PBS	PBS Engineering + Environmental
PCB	Polychlorinated biphenyls
PGA	Peak ground acceleration
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
Ppm	Parts per million

PSCAA	Puget Sound Clean Air Agency
RCRA	Resource Conservation & Recovery Act of 1976
RCW	Revised Code of Washington
SEPS II	Space and Equipment Planning Study
SHPO	State Historic Preservation Office/Officer
SO2	Sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
UST	Underground storage tank
VA	U.S. Department of Veterans Affairs
VACO	Veterans Administration Central Office
VAPSHCS	Veteran's Administration Puget Sound Health Care System
VHA	Veterans Health Administration
VISN 20	Veterans Integrated Service Network
WAC	Washington Administrative Code
WCZMP	Washington Coastal Zone Management Program
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area

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Appendix A

SHPO Memorandum of Agreement

STATE OF WASHINGTON

Department of Archaeology and Historic Preservation

1063 S. Capitol Way, Suite 106 • PO Box 48343 • Olympia, Washington 98504-8343
360) 586-3065 • Fax Number (360) 586-3067

June13, 2011

Director
Puget Sound Health Care System
1660 South Columbian Way
Seattle, Washington 98108
ATTN: Michael Conti

In future correspondence please refer to:
Log: 111810-04-VA
Re: Memorandum of Agreement, Building 81 Seismic Replacement, American Lake

Dear Director:

Enclosed, please find the original copy of the Memorandum of Agreement (MOA) pertaining to the above referenced project. The original copy of the MOA has been signed by Washington State Historic Preservation Officer (SHPO) Dr. Allyson Brooks. A copy of the executed document will be retained in our files for future reference.

Many thanks to you, your staff, and Artifacts Consulting for assistance in reaching this agreement. On behalf of the SHPO and DAHP staff, we look forward to working with you toward successful implementation of the mitigation measures agreed to in the MOA. Should there be any questions, I may be reached at 360-586-3073 or greg.griffith@dahp.wa.gov.

Sincerely,

Greg Griffith

Gregory Griffith
Deputy State Historic Preservation Officer

Enclosure

RECEIVED
JUN 07 2011
DEPT. OF ARCHAEOLOGY & HISTORIC PRESERVATION

MEMORANDUM OF AGREEMENT
BETWEEN THE UNITED STATES DEPARTMENT OF VETERANS AFFAIRS
PUGET SOUND HEALTH CARE SYSTEM
AND THE WASHINGTON STATE HISTORIC PRESERVATION OFFICER
REGARDING THE CONSTRUCTION RELATED TO BUILDING 81 SEISMIC REPLACEMENT
American Lake, WA

WHEREAS, the United States Department of Veterans Affairs VA Puget Sound Health Care System (VA Puget Sound) proposes to construct a new seismically stable hospital (Building 201) at the American Lake campus in Pierce County, Washington, within the American Lake Veterans Hospital Historic District; and

WHEREAS, the undertaking includes transferring programs from buildings to be demolished (see below) to Buildings 2 and 3 and SHPO has previously concurred in a No Adverse Effect determination for the rehabilitation of Building 3 (letter from SHPO dated April 7, 2010, Log #040710-03-VA); and

WHEREAS, the undertaking includes demolition of nine (four contributing buildings to the historic district and five non-contributing) buildings, and the introduction of a new hospital building in the American Lake Veterans Hospital Historic District, which is listed in the National Register of Historic Places; and

WHEREAS, VA Puget Sound has determined, and the Washington State Historic Preservation Officer (SHPO) has concurred, that the proposed undertaking will have an adverse effect on the American Lake Veterans Hospital Historic District, and

WHEREAS, VA Puget Sound has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470 (NHPA), and its implementing regulations, 36 CFR Part 800, with a request for the Council participation to resolve the adverse effects, and the Council has elected not to participate; and

WHEREAS, VA Puget Sound has invited the Nisqually Tribe, the Puyallup Tribe and the Steilacoom Tribe to consult regarding the project, in accordance with Section 106 of the NHPA and its implementing regulations, 36 CFR 800, and none have elected to participate; and

WHEREAS, VA Puget Sound has invited the Pierce County, WA Executive Office to consult regarding the project, in accordance with Section 106 of the NHPA, and its implementing regulations, 36 CFR 800, and the Pierce County Executive has elected not to participate; and

WHEREAS, VA Puget Sound has consulted with the City of Lakewood, WA, in accordance with Section 106 of the NHPA and its implementing regulations 36 CFR Part 800, to resolve the adverse effects of the project on historic properties.

NOW, THEREFORE, VA Puget Sound and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to minimize and mitigate the adverse effects posed to the American Lake Veterans Hospital Historic District.

STIPULATIONS

VA Puget Sound shall ensure that the following measures are carried out:

I. Project Phasing

The project undertaking will be carried out in phases, which must occur sequentially in order to maintain medical operations.

A. Relocation: Relocating operations from buildings to be demolished (see B. Demolition below) to Buildings 2 and 3.

B. Demolition: Demolition of nine buildings (with additions), including four that are identified as contributing to the historic district (see Appendix A – Site Map):

Contributing Buildings

- Building 24 – Electric Substation, 1923 with connecting addition to Building 50, 1934
- Building 27 – Sewage Pumping Station, 1923 with non-contributing addition ca. 1943
- Building 50 – Utility Shops, 1928 with connecting addition to Building 24, 1934
- Building 86 – Switch House, 1946

Non-contributing buildings to be removed include:

- Building 132 – Canteen, 1980
- Building 150 – Smoking Shelter, 1995
- Building 151 – ATM, ca. 1995
- Building 156 – (rear addition to Building 132), ca. 1990
- Building T97 – Butler Hut Utility Shop, ca. 1946

C. New Construction: Construction of Building 201 to serve as the new Ambulatory Medical Specialty Building (see Appendix A – Site Map), including new offset tree planting and landscaping compatible with existing.

II. Documentation

A. VA Puget Sound will ensure that all contributing and non-contributing buildings are photographed and otherwise documented in accordance with ***The Washington State Standards for Cultural Resource Reporting***, and that the resulting documentation is provided to the SHPO for inclusion in the ***Washington State Inventory of Cultural Resources*** and the ***Historic Property Inventory***.

B. VA Puget Sound will remove Building 2 from consideration for demolition and rehabilitate the building for new uses. VA Puget Sound will provide SHPO with plans for the rehabilitation of Building 2. SHPO shall review and comment within thirty (30) calendar days of receipt of plans. VA Puget Sound shall consult with SHPO and

consulting parties to resolve any concerns raised with regard to the submitted plans. All work shall comply with the ***Secretary of the Interior Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*** (36 CFR 68).

C. VA Puget Sound will provide SHPO with plans and design studies for the new Building 201. SHPO shall review and provide comment within thirty (30) calendar days after receipt of all documentation. The new building is intended to respect the historic and architectural qualities of the Historic District, and is responsive to the recommended approaches to new construction found in the ***Secretary of the Interior Standards for Rehabilitation and Guidelines for the Rehabilitation of Historic Buildings*** (36 CFR 68).

D. VA Puget Sound will provide SHPO with a copy of the landscape report (prepared by Eliza Davidson through Artifacts, Inc., 2010) for the Historic District prepared as an element of the draft ***American Lake Veterans Hospital Historic Preservation Plan,*** which is pending VA Puget Sound approval and adoption

E. VA Puget Sound will provide SHPO with plans for the landscape restoration associated with the construction of Building 201 upon availability. SHPO shall review and provide comment within thirty (30) calendar days of the receipt of documentation. VA Puget Sound shall consult with SHPO and consulting parties to resolve any concerns raised with regard to the submitted plans. All work shall take into account the ***Secretary of the Interior Standards for Rehabilitation and the Guidelines for the Treatment of Cultural Landscapes*** (36 CFR 68).

F. VA Puget Sound will engage SHPO (and the pending ***American Lake Design Advisory Committee*** recommended in the draft ***American Lake Veterans Hospital Preservation Plan***) in a dialogue within one (1) year of the execution of this MOA regarding the long-term future of Building 81, a significant contributing property to the American Lake Veterans Hospital Historic District. This dialogue is meant to ensure early SHPO and Committee input into the long-range planning for this building. A report of the findings of this planning dialogue shall be prepared for distribution to the appropriate officials at VA Puget Sound, SHPO, consulting parties identified in this MOA, and Committee members.

G. In consultation and coordination with SHPO, VA Puget Sound (and the pending ***American lake Design Advisory Committee)*** will develop an exhibit within five (5) years of the execution of this MOA on the history of the American Lake Veterans Hospital and the Historic District to be publicly displayed in Building 2.

III. **Archaeology**

A. Prior to any ground disturbance associated with Building 201, VA Puget Sound shall undertake an archaeological survey of the area, to be conducted by a professional archaeologist meeting the ***Secretary of the Interiors Professional Standards for Archaeology*** (36 CFR Part 61). The subsequent report will meet the standards described in the ***Washington State Standards for Cultural Resource Reporting*** and be

submitted to SHPO for review. Upon SHPO acceptance the report will be entered into the ***Washington State Inventory of Cultural Resources.***

B. VA Puget Sound will ensure that a professional archaeologist meeting the ***Secretary of the Interior Professional Standards for Archaeology*** (36 CFR 61), is present on site to monitor excavation activity.

C. In the event of unanticipated or inadvertent discovery of cultural material during the project Appendix B of this MOA will serve as the guide for the treatment of those materials.

IV. Duration

This Memorandum of Agreement (MOA) shall be null and void upon the date its terms are carried out, or in the alternative, the MOA shall be null and void if its terms are not carried out within ten (10) years from the date of its execution. Prior to such time, VA Puget Sound may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with the Amendment section below.

V. Dispute Resolution

Should a party or parties to this agreement object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, VA Puget Sound shall consult with the objecting party (ies) to resolve the objections. If VA Puget Sound determines, within thirty (30) days of initiating consultation, that such objection(s) cannot be resolved, the VA Puget Sound will:

A. Forward all documentation relevant to the dispute to the Council. Upon receipt of adequate documentation, the Council shall review and advise VA Puget Sound on the resolution of the objection within thirty (30) days. Any comment provided by the ACHP and all comments from the signatories to the MOA will be taken into account by VA Puget Sound in reaching a final decision regarding the dispute.

B. If the Council does not provide comments regarding the dispute within thirty (30) days after receipt of adequate documentation, VA Puget Sound will give consideration to comments from the parties to the MOA and make a final decision.

C. VA Puget Sound's responsibilities to carry out all other actions subject to the terms of this MOA that are not subject of the dispute will remain unchanged. VA Puget Sound will notify all parties of its decision in writing before implementing that disputed portion of the undertaking. VA Puget Sound's decision will be final.

VI. Amendments and Non-Compliance

If any signatory to this MOA determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR 800.6(c)(7) and

800.6(c)(8) and 33 CFR, Appendix C, Section 10. The amendment will be effective on the date a copy is signed by all of the original signatories and is filed with the Council. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation VII, below.

VII. Termination

If an MOA is not amended following the consultation set out in accordance with Stipulation VI, it may be terminated by any signatory. Within thirty (30) days following termination, VA Puget Sound shall notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36 CFR 800.6 (a)(1) or request the comments of the Council under 36 CFR 800.7(a) and proceed accordingly.

Execution of this MOA by VA Puget Sound and the Washington SHPO, and implementation of its terms, evidence that VA Puget Sound has taken into account the effects of this undertaking on historic properties and afforded the Council an opportunity to comment.

SIGNATORIES

United States Department of Veterans Affairs
Puget Sound Health Care System

_____ **Date** 13 may 11
David A. Elizalde, Director

Washington State Historic Preservation Officer

_____ **Date** 6/7/11
Dr. Allyson Brooks, State Historic Preservation Officer

APPENDIX A – SITE MAP

(provided under separate cover)

APPENDIX B – INADVERTENT DISCOVERY PLAN

VA Puget Sound agrees to abide by the following Inadvertent Discovery Plan,

1. In the event any archaeological or cultural materials are discovered during project activity, work in the immediate area will stop and the following actions taken:

    a. Implement reasonable measures to protect the discovery site, including appropriate stabilization and/or covering.
    b. Take reasonable steps to insure the confidentiality of the discovery site, and
    c. Take reasonable steps to restrict access to the site of discovery.

2. VA Puget Sound will notify the Washington SHPO, all Tribes and all appropriate county, state, and federal agencies of the discovery. VA Puget Sound, the SHPO, Tribe(s), and agencies will discuss possible measures to avoid or remove cultural material, and will reach an agreement regarding actions to be taken and disposition of material.

3. Human remains are protected under RCW 27.44, 68.50 and 68.60. If human remains are uncovered, the county coroner and appropriate law enforcement agencies shall first be notified in the most expeditious manner possible, and the actions described in paragraph 2 above will be followed. 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, then SHPO will take jurisdiction over those remains from non-Federal and Non-Tribal land and report them to any appropriate cemeteries and affected Tribes.

4. The State Physical Anthropologist will make a determination of whether the remains are Native American or non-Native American and report that finding to the appropriate cemeteries and affected tribes.

5. The SHPO will manage all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains.

Appendix B

Public Comments

Joint Base Lewis McChord – Public Works Division

-----Original Message-----
From: Van Hoesen, Bill CIV USA IMCOM [mailto:bill.vanhoesen@us.army.mil]
Sent: Friday, November 04, 2011 12:03 PM
To: PUG Public Affairs Puget Sound
Cc: martin.burris@us.army.mil; paul.steucke@us.army.mil; philip.b.crawford@us.army.mil
Subject: FW: Comments on American Lake Veterans Hospital Building 81 Replacement (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Reference: ALVH Building 81 EA

Comments are assigned a unique number. Each comment is addressed by number in the response

Date: November 4, 2011

Dear Ms. Katherine M. Lee,

Thank you for providing this office with a copy of the draft environmental assessment (EA) and Finding of No Significant Impact (FONSI) for the project: American Lake Veterans Hospital Building 81 Replacement. We support the Veterans Administrations mission in the delivery of medical services to our veterans in the Puget Sound region.

Public Works does have several comments in regard to the Water Resources section of the EA.

1) Joint Base Lewis McChord (JBLM) Public Works does not agree with the first paragraph on page 61 stating that long term improvements to water quality will offset potential short term water quality impacts during construction. This is not acceptable from a regulatory standpoint, discharges during construction and after construction must comply with water quality standards. In accordance with the NPDES permit described on page 60 the contractor must implement BMPs. If the project construction will have a impact on Water Resources (Waters of the United States), the project is not eligible for coverage under the Construction General Permit. Mitigation measures are listed on page 60 that will address the potential impacts during construction. On page 27 the short term impacts to Water resources are listed as None. This determination is not correct if the potential short term impacts to water quality will not be controlled by the mitigation measures as indicated on page 60.

JBLM - 1

2) The designs (of Federal Facilities) must comply with Section 438 (attached) of the Energy Independence and Security Act (EISA) as stated on page 60. DoD and Army Policy Letters for EISA implementation attached. Recommend including reference to these on page 73 (possibly on page 60 and 70 for Water Quality) water resources and including EISA citation and Policy letters as references. Recommend including EISA compliance in Water Quality

JBLM - 2

section on page 70. The Act goal is cumulative positive impact on surface water quality in the region.

JBLM - 3

3) Also recommend including: Stormwater discharges shall not violate Washington State's surface water quality standards (WAC Chapter 173-201A) and groundwater quality standards (WAC Chapter 173-200).

JBLM - 4

4) Recommend including the following in the references and citing in the text. Design should follow these guidance documents:

a) Stormwater management infrastructure design shall follow the Western Washington Stormwater Management Manual. This document should be used to size stormwater controls.

JBLM - 5

b) Low-impact development techniques shall comply with the Low Impact Development Technical Guidance Manual for Puget Sound.

5) Note: the 2008 Construction General Permit identified on page 74 has been extended to February 2012. A draft permit was released in 2011. Construction projects beginning after the effective date of the new permit will be required to comply with the new permit requirements.

If you should have any questions regarding these comments, please contact:

Martin Burris, P.E., Stormwater Program Manager, Public Works Environmental Division, JBLM, Washington 253-966-1768, FAX 253-966-4985,
email:
martin.burris@us.army.mil

Again, thank you for the opportunity to review and comment on the NEPA documentation.

Bill Van Hoesen, NEPA Program Manager, Public Works Environmental Division, JBLM, Washington
253 966-1780
Classification: UNCLASSIFIED
Caveats: FOUO

Response to Joint Base Lewis McChord

Response to Comment JBLM-1

The discussion in the EA has been revised with regard to impacts to water resources. It was not our intent to imply that there would be short term construction impacts to water quality. During construction the project will be under an NPDES construction permit and will be required to meet all state and federal water quality standards. The mitigation measures listed on page 60 will prevent any degradation of water quality during construction.

Response to Comment JBLM-2

The EA has been amended to include additional reference to Section 438 of the Energy Independence and Security Act (EISA) and to incorporate some of the DoD and Army guidance. EISA guidance and policy documents have been added to the references section. The project will result in a cumulative positive impact to water quality as stormwater that is currently piped directly to the lake without treatment will now be infiltrated and/or treated before it reaches the lake.

Response to Comment JBLM-3

The EA has been amended to state that stormwater discharges shall not violate Washington State's surface water quality standards or groundwater quality standards

Response to Comment JBLM-4

The EA has been amended to state that the stormwater infrastructure was designed and sized using the Western Washington Stormwater Management Manual. A number of low impact development techniques are incorporated into the design. The Low Impact Development Technical Guidance Manual for Puget Sound was used during design. We have added these documents to the reference section.

Response to Comment JBLM-5

A comment was added to the EA that the project would need to obtain coverage under the current NPDES Construction General Permit or the equivalent permit in place at the time of construction.

Washington State Department of Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

November 7, 2011

Comments are assigned a unique number. Each comment is addressed by number in the response

Katharine Lee, Senior Project Manager
VA Puget Sound Health Care System
1660 South Columbian Way
Seattle, WA 98108

Dear Ms. Lee:

Thank you for the opportunity to comment on the FONSI/Draft EA for the American Lake Veterans Hospital-Building 81 Replacement project located in Joint Base Lewis McChord. The Department of Ecology (Ecology) reviewed the information provided and has the following comment(s):

WASTE 2 RESOURCES: Mike Drumright (360) 407-6397

We encourage the applicant to consider incorporating the principles of smart growth, urbanism and green building in order to reduce the impacts from the development. Please refer to the techniques referenced in the LEED® (Leadership in Energy and Environmental Design) for Neighborhood Development rating system. The LEED checklist can be an effective design guide for environmentally responsible, sustainable development. Achieving any of the various levels of LEED certification indicates a comprehensive effort to reduce overall environmental impacts from building construction and operation, and can be attractive to potential tenants. For assistance and additional information on incorporating green building techniques and sustainable building materials in the project, please contact Ariona at (360) 407-6351.

WA DOE-1

Landscaping should incorporate waste prevention measures and the use of organic materials. Water needs are reduced by the use of drought tolerant native plants, compost material, mulch, and drip irrigation. Pesticide needs are reduced by use of pest resistant native plants. Compost is also an effective soil amendment. Wood chipped debris can be used to mulch ornamental beds, suppress weeds, retain moisture, control erosion, and provide a base for pathways. We also recommend using organic debris generated on-site if possible for landscaping.

WA DOE-2

Composting: The applicant should consider providing the means for on-site or off-site yard waste composting.

The applicant should consider providing the means for on-site food waste vermicomposting (worm) or food waste composting.

Replanting: We recommend planting as many drought-resistant native species as possible. All grading and filling of land must utilize only clean fill, i.e., dirt or gravel. All other materials, including waste concrete and asphalt, are considered to be solid waste and permit approval must be obtained through the local jurisdictional health department prior to filling (WAC 173-350-990).

November 7, 2011
Page 2

SEPA REVIEWER: Sonia Mendoza
WATER QUALITY CONTACT: Stephanie Jackson (360) 407-6294

WA DOE-3

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Proper disposal of construction debris must be on land in such a manner that debris cannot enter water of the state and stormdrains draining to waters of the state or cause water quality degradation of state waters.

Clearing limits and/or any easements or required buffers should be identified and marked in the field, prior to the start of any clearing, grading, or construction. Some suggested methods are staking and flagging or high visibility fencing.

A permanent vegetative cover should be established on denuded areas at final grade if they are not otherwise permanently stabilized.

Properties adjacent to the site of a land disturbance should be protected from sediment deposition through the use of buffers or other perimeter controls, such as filter fence or sediment basins.

All temporary erosion control systems should be designed to contain the runoff from the developed two year, 24-hour design storm without eroding.

Provision should be made to minimize the tracking of sediment by construction vehicles onto paved public roads. If sediment is deposited, it should be cleaned every day by shoveling or sweeping. Water cleaning should only be done after the area has been shoveled out or swept.

Wash water from paint and wall finishing equipment should be disposed of in a way which will not adversely impact waters of the state. Untreated disposal of this wastewater is a violation of State Water Quality laws and statutes and, as such, would be subject to enforcement action.

This project may require a construction stormwater permit (also known as National Pollution Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction). This permit is required for projects which meet both of the following conditions:

WA DOE-4

1. One or more acres of soil surface area will be disturbed by construction activities.
2. The site already has offsite discharge to waters of the state or storm drains or will have offsite discharge during construction.

An application with instructions can be downloaded from Ecology's website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/ - Application. Construction site operators must apply for a permit at least 60 days prior to discharging stormwater.

November 7, 2011
Page 3

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(SM:11-4829)

cc: Mike Drumright, W2R
Stephanie Jackson, WQ
Josh Klimek, HQ/WQ

Response to Washington State Department of Ecology

Response to Comment WA-DOE-1

The project is committed to green infrastructure and is being designed to LEED standards. A minimum LEED silver certification is expected and the project may qualify for LEED gold.

Response to Comment WA-DOE -2

The American Lake campus has a campus wide landscape program that is outside of the realm of this project. Landscape plants proposed for the project include a number of native drought resistant species. All fill material used in the project will be clean fill.

Response to Comment WA-DOE -3

The water quality sections of the EA have been amended to state that stormwater discharges shall not violate Washington State's surface water quality standards or groundwater quality standards. A Stormwater Pollution Prevention Plan and Temporary Erosion and Sediment Control Plan will be prepared prior to construction. Best management practices will be used to prevent any construction impacted stormwater from leaving the site. Any contaminated runoff (from concrete, paint or other source) will be collected for off-site disposal in an approved location.

Response to Comment WA-DOE -4

The project expects to apply to the EPA for coverage under the NPDES WAR1000F Construction Stormwater Permit as required for federal facility projects in the State of Washington.