RESTORE OUR WATERS
SEATTLE PUBLIC UTILITIES
COMBINED SEWER OVERFLOW REDUCTION

Henderson Basin 44 CSO Reduction Project

Final Environmental Impact Statement

January 2013

HDR CH2MHILL

City of Seattle
Seattle Public Utilities

January 3, 2013

Dear Affected Agencies, Tribes, Organizations, and Interested Parties,

Enclosed is the Final Environmental Impact Statement (Final EIS) for the proposed Henderson Basin 44 Combined Sewer Overflow (CSO) Reduction Project.

The proposed project consists of an underground storage tank to store excess sewage and stormwater flows from Basin 44 in southeast Seattle during heavy rains, and associated infrastructure, shoreline, and landscape improvements. Once constructed, the project would reduce the number and volume of raw sewage and untreated stormwater overflows to Lake Washington, which would help protect public health and would improve water quality in the lake. The proposed project also is needed to bring the basin into compliance with state and federal regulations that limit the number of raw sewage overflows to a long-term average of no more than one per year.

The FEIS evaluated three alternatives:

- **Tennis Courts Alternative** - Storage under Seward Park Tennis Courts (the preferred alternative)
- **Parking Lot Alternative** - Storage under Seward Park Parking Lot
- **No Action Alternative** – No reduction in sewage overflows

Both the Tennis Courts and Parking Lot Alternatives include four main components:

- An underground, 2.4-million-gallon storage tank and associated infrastructure
- Shoreline treatment
- Replacement of the existing CSO overflow pipe into Lake Washington
- Transfer of Urban Park and Recreation Recovery (UPARR) grant restrictions and upland landscaping enhancements along Lake Washington Boulevard

The Final EIS analyzes the environmental impacts of the proposed alternatives. Environmental issues include short-term construction impacts (e.g., noise, dust, vibration, odors, parking, truck traffic) and long-term impacts on park users and adjacent neighbors, and loss of trees. The key issue is whether the storage facility should be located under the tennis courts or under the parking lot.

Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

Tel (206) 684-5851
Fax (206) 684-4631
TDD (206) 233-7241
ray.hoffman@seattle.gov

http://www.seattle.gov/util
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The Final EIS responds to comments received during the Draft EIS comment period and includes some modification and revisions to the analysis provided in the Draft EIS as appropriate. The Final EIS is a standalone document addressing all of the State Environmental Policy Act (SEPA) required environmental elements (rather than a summary of the changes from the Draft EIS).

The appeal period associated with this Final EIS is January 3, 2013 through January 17, 2013.

Thank you for your interest in the Henderson Basin 44 CSO Reduction Project.

Sincerely,

Betty Meyer
SEPA Responsible Official

Fact Sheet

Name of Proposal

Henderson Basin 44 Combined Sewer Overflow (CSO) Reduction Project

Proponent

City of Seattle; Seattle Public Utilities (SPU)

Location

The proposed project would be located in Basin 44 in southeast Seattle. Basin 44 is the geographic area that contributes CSOs to Lake Washington via CSO Outfall 44 near Seward Park. The eastern boundary of Basin 44 is Lake Washington. Other Basin 44 boundaries are generally 52nd Avenue South to the west, South Hudson Street to the north, and South Morgan Street to the south. The 375-acre basin includes residential neighborhoods and Seward Park.

Most of the proposed project components would be located in Seward Park with some minor components at a site approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South.

Purpose

The proposed project consists of an underground storage tank to store excess sewage and stormwater flows from Basin 44 during heavy rains, and associated infrastructure, shoreline, and landscape improvements. Once constructed, the project would reduce the number and volume of raw sewage and untreated stormwater overflows to Lake Washington, which would help protect public health and would improve water quality in the lake. The proposed project also is needed to bring the basin into compliance with state and federal regulations that limit the number of raw sewage overflows to a long-term average of no more than one per year.

Proposed Alternatives

SPU identified the following alternatives for evaluation in the Final EIS:

- Tennis Courts Alternative - Storage under Seward Park Tennis Courts (the preferred alternative)
- Parking Lot Alternative - Storage under Seward Park Parking Lot
- No Action Alternative - No reduction in sewage overflows

Tennis Courts and Parking Lot Alternatives: Both alternatives consist of the four main components listed below. Project components for the two alternatives would be similar; the main difference would be the location of the CSO storage tank and shoreline treatment. The project components for the Tennis Courts and Parking Lot Alternatives include the following:

- An underground, 2.4-million-gallon storage tank and associated infrastructure
- Shoreline treatment
- Replacement of the existing CSO overflow pipe into Lake Washington
- Transfer of Urban Park and Recreation Recovery (UPARR) grant protections and upland landscaping enhancements

The first three elements would be located in Seward Park. The fourth element would be located in a portion of Lake Washington Boulevard Park approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South.

No Action Alternative: Under the No Action Alternative, the CSO storage tank and associated infrastructure would not be built. The shoreline treatment next to the CSO storage tank and the transfer of UPARR grant protections would also not be implemented. The existing CSO outfall pipe would eventually be replaced because it is in poor condition and was previously recommended for replacement. The outfall replacement is expected to occur between 2015 and 2020, under the SPU Outfall Rehabilitation Program.

Implementation Date

If the project is approved, construction is anticipated to occur from mid-2015 to the end of 2017.

Final Action

The proposed project may not proceed unless the City Council approves the project pursuant to Ordinance 118477 (a.k.a., “Initiative 42”), and before permits and approvals are obtained from government agencies. The Council is expected to hold a public hearing regarding the proposed project, and decide whether to approve it, in 2013. Decisions approving or denying permits and approvals are expected to occur in 2013-2014.

Date of Final Action

Construction is anticipated to occur from mid-2015 to the end of 2017.

Required Approvals or Permits

The table below lists the anticipated permits and approvals.

Agency/Jurisdiction	Permit/Approval
Federal	
National Park Service	• Section 1010 UPARR Impact Mitigation Approval • National Environmental Policy Act (NEPA) Compliance
U.S. Army Corps of Engineers	• Rivers and Harbors Act Section 10/Clean Water Act Section 404 Permit
U.S. Fish and Wildlife Service/National Marine Fisheries Service	• Section 7 Endangered Species Act Compliance
State	
Washington State Recreation & Conservation Office	• Land Use Approval
Washington Department of Ecology	• Facility Plan Approval • NPDES Construction Stormwater General Permit • 401 Water Quality Certification[1] • Coastal Zone Consistency Determination[1]
Washington Department of Fish and Wildlife	• Hydraulic Project Approval
Washington Department of Archaeology and Historic Preservation	• Section 106 National Historic Preservation Act Consultation
Local	
Seattle City Council	• Initiative 42 Approval (Park Lands Conversion) • Partial Transfer of Jurisdiction
Seattle Department of Planning and Development	• Type V Council Land Use Decision – Concept Approval for City Facility • Master Use Permit II – SEPA Conditioning Approval • Master Use Permit II – Shoreline Substantial Development Permit • Environmental Critical Areas Approval • Clear and Grade Permit • Building Permit – Storage Tank, Facilities Vault, and Shoring • Electrical Permit • Plumbing Permit • Mechanical Permit
Seattle Design Commission	• Project Review
Seattle Department of Transportation	• Street Use Permit
Seattle Parks and Recreation	• Revocable Use Permit
Seattle Public Utilities	• State Environmental Policy Act (SEPA) Compliance
Public Health – Seattle & King County	• Health Permit (Air Gap)
King County	• Industrial Waste Discharge Permit/Construction Dewatering Approval

[1]These may be included as part of a Corps of Engineers Permit.

Authors and Principal Contributors to this EIS

This EIS has been prepared under the direction of Seattle Public Utilities. The following consulting firms provided research and analysis associated with this EIS:

- **HDR Engineering** – lead EIS consultant; document preparation; writing of the following chapters: recreation; aesthetics, light, and glare; habitat, wildlife, and plants; transportation; water resources; air quality, odor, and climate change; geology; land and shoreline uses; noise and environmental hazards; energy and natural resources; public services and utilities; environmental justice; cumulative impacts
- **CH2M Hill** – engineering support; writing cultural resources chapter
- **HBB Landscape Architecture** – conceptual landscaping design; recreation research
- **Urban Forestry Services, Inc.** – tree inventory of Seward Park
- **Historical Research Associates, Inc.** – cultural resources research
- **Shannon & Wilson** – geotechnical research

Project Proponent and Lead Agency

City of Seattle, Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

SPU SEPA Responsible Official

Betty Meyer
Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
betty.meyer@seattle.gov

Project Information / Background Data Contact Person

Kathy Robertson, PE, SPU Project Manager
kathy.robertson@seattle.gov
Ph: (206) 733-9396

Date of Issuance of this Final EIS

January 3, 2013

Availability of the Final EIS and Background Materials

The Final EIS is available for viewing at the following locations:

- Seattle Public Utilities, Director's Office Main Reception Area, Seattle Municipal Tower, Suite 4900, 700 Fifth Avenue, Seattle, Washington
- Seattle Central Library, Public Review Documents, Level 5 Reference
- Online at www.seattle.gov/cso/northhenderson

The Final EIS can be downloaded for free from the www.seattle.gov/cso/northhenderson website or purchased on CD for $10 or in paper form for $170. Purchased copies will be mailed upon receipt of a check made payable to Seattle Public Utilities.

Additional background materials can be viewed on the www.seattle.gov/cso/northhenderson website. They may also be viewed in paper form by arranging a time with Kathy Robertson, PE, SPU Project Manager, at kathy.robertson@seattle.gov or (206) 733-9396.

The Final EIS and the background materials will be available until the close of the Final EIS appeal period, which is January 3 to January 17, 2013.

Appeal of the Final EIS

Appeals of the Final EIS must be accompanied by a $85.00 filing fee and must be filed by 5:00 p.m. on January 17, 2013.

- Written appeals must be sent to:
  City of Seattle Hearing Examiner
  700 5th Avenue Suite 4000
  P.O. Box 94729
  Seattle, WA 98124-4729
- Appeals can be filed electronically. Details on electronic filing procedures are available under "e-File" at the Office of the Hearing Examiner's web site: http://www.seattle.gov/examiner/
- Filing fees must be paid by the appeal deadline and can be paid via check (made payable to the City of Seattle) or credit/debit card (Visa and MasterCard only). Credit/debit card payments can be made in-person or over-the-phone.

You should be prepared to make specific factual objections. Please refer to the Hearing Examiner Rules of Practice and Procedure for rules that govern appeals, which are available on the Hearing Examiner's website at www.seattle.gov/examiner/rules-toc.htm or by calling 206-684-0521.

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Appendix B Draft EIS Comments and Responses

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Appendix D Supporting Information for Other Chapters

List of Acronyms

ADA	Americans with Disabilities Act
APE	Area of Potential Effects
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIG	Climate Impacts Group
Corps	U.S. Army of Corps of Engineers
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DAHP	Department of Archaeology and Historic Preservation
dBA	decibels
dbh	diameter at breast height
DPD	Department of Planning and Development
DS	Determination of Significance
EIS	Environment Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FOSP	Friends of Seward Park
FWHCA	Fish and Wildlife Habitat Conservation Areas
HPI	Historic Property Inventory
HRA, Inc.	Historical Research Associates
HVAC	heating, ventilation, and air conditioning
kWh	kilowatt hours
MG	million gallons
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
ND	no data
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places

PCBs	polychlorinated biphenyls
PCE	primary constituent element
PDO	Pacific Decadal Oscillation
PM2.5	particulate matter 2.5 micrometers or less
PM10	particulate matter 10 micrometers or less
PPM	part per million
PSCAA	Puget Sound Clean Air Agency
REC	recognized environmental conditions
RCW	Revised Code of Washington
SDOT	Seattle Department of Transportation
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SMC	Seattle Municipal Code
SPU	Seattle Public Utilities
UPARR	Urban Park and Recreation Recovery
US BTS	U.S. Bureau of Transportation Statistics
US EIA	U.S. Energy Information Administration
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Data (DAHP online database)
WPA	Works Progress Administration
WSDOT	Washington State Department of Transportation

1 Summary

1.1 What is the Henderson Basin 44 CSO Reduction Project and why is it needed?

Sewers in the project area carry raw sewage away from the neighborhood for treatment at King County's West Point and South treatment plants before discharge to Puget Sound. When it rains, these same sewers also carry untreated stormwater from neighborhood roofs, foundation drains, and some streets. During heavy rains, if the amount of raw sewage and untreated stormwater exceeds the sewer system capacity, the excess flows discharge into Lake Washington. The term for these overflows is "Combined Sewer Overflows," or CSOs, and they are a public health and environmental concern. The goal of the Henderson Basin 44 CSO Reduction Project is to reduce the number and volume of these sewage overflows from the project area. Basin 44 is in southeast Seattle along the western shoreline of Lake Washington.

Seward Park is owned and managed by the Seattle Department of Parks and Recreation (Seattle Parks) and is the site of the Henderson Basin 44 CSO Reduction Project. The proposed project consists of building a 2.4-million-gallon (MG) underground storage tank to store excess sewage and stormwater flows in Basin 44 during heavy rain events. The project also includes additional infrastructure, shoreline, and landscape improvements.

The proposed project would help protect public health, improve water quality in Lake Washington, and comply with regulations by reducing the number of CSO events in Basin 44 to a long-term average of no more than one untreated discharge per year per outfall.

1.2 What Alternatives does this EIS consider?

SPU identified the following alternatives for evaluation in this EIS:

- Tennis Courts Alternative - Storage under Seward Park Tennis Courts (the preferred alternative)
- Parking Lot Alternative - Storage under Seward Park Parking Lot
- No Action Alternative

1.2.1 Tennis Courts and Parking Lot Alternatives

Both the Tennis Courts and the Parking Lot Alternatives consist of the following four main elements (see Figure 1-1). The two alternatives are similar; the main difference is the location of the CSO storage tank and shoreline treatment.

- An underground, 2.4 MG CSO storage tank and associated infrastructure
- Shoreline treatment
- Replacement of an existing CSO outfall pipe
- A transfer of Urban Park and Recreation Recovery (UPARR) grant protections and upland landscaping enhancements

The first three elements are located in Seward Park. The fourth element is located in a portion of Lake Washington Boulevard Park approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South.

- **CSO Storage Tank and Associated Infrastructure:** A new underground 2.4 MG CSO storage tank in the southwest corner of Seward Park, next to Lake Washington. The CSO storage tank would be located under the tennis courts and an adjacent parking lot (Parking Lot 1) for the Tennis Courts Alternative and under a different parking lot (Parking Lot 2) for the Parking Lot Alternative. These two locations are approximately 300 feet apart. An underground facilities vault attached to the CSO storage tank would contain odor control, mechanical, electrical, and control systems. A small, nearby area would contain several aboveground features (e.g., electrical cabinet, air intakes and exhaust vents, and odor control exhaust vent). Additional aspects include adding combined sewer pipes and a water pipe, and making minor modifications to the existing combined sewer system.
- **Shoreline Treatment:** For both the Tennis Courts and the Parking Lot Alternatives, the proposed locations for the CSO storage tank are adjacent to the shoreline where there are existing bulkheads (or retaining walls) waterward to control beach erosion from wave action. SPU has options on how the shoreline could be restored after construction of the CSO storage tank. The shoreline could be retained in its current state with the existing bulkhead and the area between the CSO storage tank and the lake could be planted with lawn and upland native landscaping. Alternatively, SPU could remove the existing bulkhead and construct a new, rounded-gravel beach, with native beach and upland landscaping shoreward and large woody debris or other features anchored in the water that provide cover for fish. Between the beach and the new CSO storage tank, SPU would install a new wall made of stone, concrete, or similar material to protect the CSO storage tank and the tennis courts or parking lot (depending on the Alternative selected) from wave action during storms. The final configuration of the shoreline would be decided during the project's design phase.
- **Replacement of the Existing CSO Outfall:** The outfall pipe that conveys CSOs from Basin 44 into Lake Washington. A previous evaluation of SPU's CSO outfalls determined that the existing 24-inch-diameter wood pipe is in poor condition and recommended the outfall for replacement (SPU 2006). SPU decided to replace the CSO outfall pipe as part of the proposed project because a single construction project would be less disruptive to Seward Park.

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Legend

- UPARR Grant Protections Removed
- Potential Project Areas
- Shoreline Treatment
- Basin 44
- Road

0 300 600 1,200 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

TENNIS COURTS AND PARKING LOT ALTERNATIVES

JANUARY 2013 | **FIGURE 1-1**

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- **Transfer of UPARR Grant Restrictions and Upland Landscaping Enhancements:** The National Park Service's (NPS) Urban Park and Recreation Recovery (UPARR) program funded several previous improvements within Seward Park by a federal grant. A condition of receiving the funds was that the property remains in recreational use in perpetuity. Several aspects of this project conflict with that condition. The UPARR program allows for a transfer of the grant protections to another area not already associated with the grant. Therefore, the grant protections would be removed from a small area in Seward Park and transferred to a portion of Lake Washington Boulevard Park north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South (the UPARR replacement area). Several aboveground features would be constructed in the area in Seward Park that would have the grant protections removed. Additionally, upland landscaping enhancements in the UPARR replacement area would be implemented, consisting of removing invasive species and planting native shrubs and trees along the waterfront. The upland landscaping enhancements would occur both within and adjacent to the area where the grant protections would be added.

1.2.2 No Action Alternative

Under the No Action Alternative, the CSO storage tank and associated infrastructure would not be built. The shoreline treatment and the transfer of UPARR grant protections also would not be implemented. The existing CSO outfall would eventually be replaced because it is in poor condition and was previously recommended for replacement. The outfall replacement is expected to occur between 2015 and 2020, under the SPU Outfall Rehabilitation Program.

Under the No Action Alternative, there would be no reduction in the number or volume of raw sewage discharges and the number of CSO events would continue to exceed the regulatory requirement of a long-term average of no more than one untreated discharge per year, in violation of federal and state law. Penalties for not meeting the regulatory requirement include fines and imprisonment.

1.3 How was the preferred alternative identified and how was the public involved in the process?

SPU identified and analyzed a number of alternatives to control CSOs in the vicinity of Seward Park (Basin 44). The process of identifying and analyzing alternatives was completed in conjunction with a public participation process that began in Summer 2010. The process was as follows:

- Step 1 – Identify and Evaluate High-level CSO Control Options
- Step 2 – Identify and Evaluate Storage Themes and Sewer Separation /Natural Drainage Systems
- Step 3 – Identify and Evaluate General Storage Locations
- Step 4 – Identify and Evaluate Site-Specific Storage Alternatives

Step 1 – Identify and Evaluate High-Level CSO Control Options

In 2010, SPU began with identifying four high-level CSO control options for Basin 44. A "CSO control option" is a technology that can be implemented to reduce CSOs. The four high-level CSO control options were: treatment, storage, sewer separation and Natural Drainage Systems, and flow transfers. These control options were evaluated for costs, technical feasibility, and community impacts. The evaluation identified storage and sewer separation/Natural Drainage Systems as the only viable CSO control options. SPU held a public workshop on November 18, 2010, to present the options and their evaluation.

Step 2 – Identify and Evaluate Storage Themes and Sewer Separation/Natural Drainage Systems

SPU identified and evaluated sewer separation/Natural Drainage Systems and three different storage themes: tunnel storage, pump and storage in Martha Washington Park, and storage in the vicinity of Seward Park. The storage themes and the sewer separation/Natural Drainage Systems option were evaluated for their costs and impacts. SPU held three public workshops on December 14, 2010, January 19, 2011, and March 10, 2011, to discuss the evaluation. The evaluation identified storage in the vicinity of Seward Park as the viable storage theme for Basin 44.

Step 3 – Identify and Evaluate General Storage Locations

SPU identified three general storage locations in the vicinity of Seward Park:

- Storage underneath private property
- Storage underneath Lake Washington Boulevard South
- Storage in Seward Park

For each of the general storage locations, representative locations were identified to provide an example of where the storage facility would be located and its costs and impacts. Through the public process and SPU's evaluation of the costs and benefits, SPU selected storage in Seward Park as its general storage location. The public workshops held on December 14, 2010, January 19, 2011, and March 10, 2011, included the evaluation of the general storage location.

Step 4 – Identify and Evaluate Site-Specific Storage Alternatives

In Summer 2011, SPU identified and developed two site-specific alternatives for storage in Seward Park. Those two alternatives were the Tennis Courts Alternative and the Parking Lot Alternative. The two site-specific alternatives were presented at a scoping meeting for the Draft EIS on June 7, 2011. (See following paragraph for details on the scoping process.) Following the scoping meeting, SPU analyzed the environmental impacts of the alternatives and issued a Draft EIS for public review.

Prior to the EIS scoping meeting and in accordance with the State Environmental Policy Act (SEPA), SPU issued a Determination of Significance and Request for Comments on Scope of EIS (DS) on May 26, 2011 (see Appendix A). The DS described the purpose of the proposed project, the three alternatives that would be considered in an EIS (Parking Lot Alternative, Tennis Courts Alternative, and No Action Alternative), and the environmental elements that would be discussed in the EIS. The DS invited agencies, affected tribes, and members of the public to comment on the scope of the EIS; provided the date, time, and location of the public scoping meeting; provided the name, address, email address, and phone number of the SEPA Responsible Official; and directed people to respond with their comments via email or in writing by June 16, 2011 to the SEPA Responsible Official. Additional SEPA required public notification included the following:

1. The DS was posted on the Seattle Department of Planning and Development's Land Use Bulletin on May 26, 2011.
2. The DS was posted on the Washington State Department of Ecology's SEPA Register on May 26, 2011.
3. The DS was published in the Daily Journal of Commerce on May 26, 2011.
4. The DS was published in the South Seattle Beacon on June 1, 2011.
5. The DS was mailed to agencies with jurisdiction and to organizations and individuals who had provided written request for such notices (see DS Distribution List in Appendix A).
6. The DS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower.

Additional voluntary public outreach included the following:

1. The DS was posted on SPU's North Henderson project website.
2. The DS was mailed to additional organizations SPU assumed might have an interest in the project (see DS Distribution List in Appendix A).
3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix A, approximately 1,700 total), notifying residents of the EIS scoping process; the date, time, and location of the scoping meeting; and the address and deadline for submitting scoping comments.
4. One of the postcards also was posted on the project sign at Seward Park.
5. An email announcing the public scoping meeting was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
6. A notice was posted on the City's online public outreach and engagement calendar.
7. Advanced meeting notice was provided in the Rainier Valley Post.
8. Meeting flyers were delivered to community centers, public libraries, synagogues, and post offices.

9. A community guide to the proposed project was developed for the scoping meeting to help explain the proposed project and the three alternatives to the public.
10. A comment form was developed for the scoping meeting, to help encourage meeting attendees to provide input and feedback.
11. Following the scoping meeting, the community guide and the comment form were posted on SPU's North Henderson project website.
12. Following the scoping meeting, a scoping summary report was prepared and posted on the SPU's North Henderson project website.

Fourteen people attended the scoping meeting, and eight people submitted comments. The scope of the EIS was adjusted to reflect scoping input, and the environmental impacts of each alternative were analyzed.

The environmental analysis indicated that both the Parking Lot Alternative and the Tennis Courts Alternative would have environmental impacts, some of which were the same for these two alternatives and some of which were not. Once the environmental analysis was complete, SPU identified the preferred alternative based on a review of the types of impacts and their significance. The Tennis Courts Alternative was identified as the preferred alternative because: (a) Seward Park is a destination park; visitors from all over the Seattle area come to the Park to enjoy its many amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). SPU then prepared a Draft EIS summarizing the findings of the environmental analysis and indicating the preferred alternative.

SPU issued a Notice of Availability of the Draft EIS on September 17, 2012 (see Appendix A). The Notice of Availability described the purpose of the proposed project and the three alternatives that were considered in the Draft EIS (Parking Lot Alternative, Tennis Courts Alternative, and No Action Alternative). The Notice of Availability invited agencies, affected tribes, and members of the public to comment on the Draft EIS; provided the date, time, and location of the Draft EIS public hearing; provided the name, address, email address, and phone number of the project manager and the SEPA Responsible Official; and directed people to respond with their comments via email or in writing by October 17, 2012 to the SEPA Responsible Official. Additional SEPA required public notification included the following:

1. The Notice of Availability was posted on the Seattle Department of Planning and Development's Land Use Bulletin on September 17, 2012.
2. The Notice of Availability was posted on the Washington State Department of Ecology's SEPA Register on September 17, 2012.
3. The Notice of Availability was published in the Daily Journal of Commerce on September 17, 2012.
4. The Notice of Availability was published in the Seattle Times on September 17, 2012.

5. The Notice and the DEIS were mailed to agencies with jurisdiction, organizations and individuals who requested copies, and organizations and individuals who commented during the scoping process (see Draft EIS Distribution Lists in Appendix A).
6. The Draft EIS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower and the Seattle Central Library.

Additional voluntary public outreach included the following:

1. The Notice of Availability and Draft EIS were posted on SPU's North Henderson project website.
2. The Notice of Availability, or the Notice of Availability and Draft EIS, were mailed to additional individuals and organizations SPU assumed might have an interest in the project (see Notice of Availability and Draft EIS Distribution Lists in Appendix A).
3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix A, approximately 1,700 total), notifying residents of the date, time, and location of the Draft EIS public hearing; providing the address and deadline for submitting comments on the Draft EIS; and providing the address of SPU's North Henderson project website for more information.
4. An email announcing the public hearing was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
5. SPU staff contacted the individuals whose property adjoins the tennis courts to ensure they knew about the Draft EIS and the public hearing.

Twenty-eight people attended the public hearing and nine individuals testified. Comments also were received by email and by US Postal Service from nineteen individuals, organizations, and agencies. The comments and responses are included in Appendix B.

In 2013, there will be an additional opportunity for the public to provide input on the Tennis Courts Alternative and the Parking Lot Alternative at a City Council public hearing to address the requirements of Seattle City Ordinance 118477 (aka, "Initiative 42"). Per Initiative 42, the Seattle City Council must hold a public hearing prior to making a determination whether there is "no reasonable and practical alternative" to constructing the facility in Seward Park. Similarly, the City Council will decide which of the two locations within Seward Park (tennis courts vs. parking lot) is preferred. Finally, the City Council will make a determination whether or not the proposed underground storage tank is "compatible with park use." SPU expects the City Council to hold the public hearing and make these determinations in 2013.

1.4 Are there significant areas of controversy or uncertainty?

A significant area of controversy is the location of the preferred alternative. Nearby neighbors of Seward Park believe that identifying the Tennis Courts Alternative as the preferred alternative prioritizes Seward Park users over the neighbors who live immediately west of the tennis courts. As many of the comments on the Draft EIS have noted (see Appendix B), although the Tennis Courts Alternative may have lesser impacts on park users, visitors to the park are present intermittently and for shorter durations, and they also have an option regarding which park they visit. In contrast, the Tennis Courts Alternative will have greater impacts on the park's neighbors, who do not have other options on where to live. Neighbors have identified that the Tennis Courts Alternative will have greater impacts on their residences with respect to construction noise, dust, odors, and vibration, and operational noise and odors. The neighbors have also expressed concerns regarding the removal of trees separating the residences from the park, and the potential for increased crime activity as a result. In contrast, Seward Park users have expressed their support for the Tennis Courts Alternative because of the lesser impacts to the Audubon Center, the clay studio, the playground, the picnic shelter, and parking.

The impacts identified in the EIS, as well as all the comments from the project stakeholders, will be presented to the City Council in 2013 during the final site selection for the project, as described in Section 1.3.

1.5 What are the potential impacts of the proposed project?

Table 1-1 summarizes the identified potential impacts, as well as measures that SPU would take to help reduce or eliminate potential impacts.

1.6 Would there be significant adverse impacts that could not be reduced or eliminated?

Construction of the proposed project would potentially have the following short-term unavoidable impacts on recreation:

- **Temporary Closure of Tennis Courts:** For the Tennis Courts Alternative, the tennis courts would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Parking Lot Alternative, the tennis courts would be closed for 18 to 30 months if selected as a location for construction staging. The closure of the tennis courts would require people to travel to other tennis courts in the area and increase the competition for court time.
- **Temporary Closure of Parking Lot 1:** For the Tennis Courts Alternative, Parking Lot 1 would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Parking Lot Alternative, Parking Lot 1 would be closed for 18 to 30 months if selected as a location for construction staging. The closure of Parking Lot 1 would reduce available parking, increase traffic congestion, reduce staging areas for special events, and make recreational facilities less accessible within Seward

Park, particularly on weekends and in the summer. Some park users may choose to use on-street parking outside of the park, reducing the availability of on-street parking for other uses, or use other parks, increasing the level of activity at those locations.

- **Temporary Closure of Parking Lot 2:** For the Parking Lot Alternative, Parking Lot 2 would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Tennis Courts Alternative, Parking Lot 2 would be closed for 18 to 30 months if selected as a location for construction staging. The closure of Parking Lot 2 would reduce available parking, increase traffic congestion, reduce staging areas for special events, and make recreational facilities less accessible within Seward Park, particularly on weekends and in the summer. Some park users may choose to use on-street parking outside of the park, reducing the availability of on-street parking for other uses, or use other parks, increasing the level of activity at those locations.

Other potential impacts (e.g., construction noise, dust, vibration, odors, and truck traffic and operational noise and odors) are expected to be less than significant because of measures designed to reduce or eliminate adverse impacts.

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Table 1-1. Summary of Potential Impacts and Measures to Reduce or Eliminate Impacts

Resources	Tennis Courts Alternative		Parking Lot Alternative		No Action Alternative [1]		Measures to Reduce or Eliminate Potential Impacts
	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	
Recreation	• Loss of UPARR protection for aboveground features area. • Close and demolish tennis courts for 30 months. • Close Parking Lot 1 for 30 months. • Close Parking Lot 2 fully or partially for 18 to 30 months. • Remove row of poplar trees next to tennis courts. • Increase use of on-street parking in adjacent neighborhood. • Suspend recreation in the construction area including shoreline access. • Disturb nearby park users at playground and Picnic Shelters 1 and 2 (but less so than the Parking Lot Alternative). • Increase traffic and noise in park. • Reduce parking for users of Audubon Center, Clay Studio, Picnic Shelters, and amphitheater.	• Restrict certain future uses in location of CSO facilities (including in above ground features area). • Loss of two public parking spaces in Parking Lots 1 and 2. • Temporarily close tennis courts and part of Parking Lot 1 for maintenance activities.	• Loss of UPARR protection for aboveground features area. • Close tennis courts for 18 to 30 months. • Close Parking Lot 1 fully or partially for 18 to 30 months. • Close Parking Lot 2 for 30 months. • Remove row of poplar trees next to Parking Lot 2. • Increase use of on-street parking in adjacent neighborhood. • Suspend recreation in the construction area including shoreline access. • Disturb nearby park users at playground and picnic shelters 1 and 2 (more so than the Tennis Courts Alternative). • Increase traffic and noise in park. • Reduce parking for users of Audubon Center, Clay Studio, Picnic Shelters, and amphitheater.	• Restrict certain future uses in location of CSO facilities (including in aboveground features area). • Loss of five public parking spaces in Parking Lots 1 and 2. • Temporarily close part of Parking Lot 2 for maintenance activities.	• None	• None	**Park Use and Access** • Consider a range of construction staging methods and sites, including offsite locations, to minimize impacts on park users. • Return recreational uses disrupted during construction to pre-construction conditions or better. • Schedule construction to avoid or minimize overlap with the construction of other projects in the vicinity to the extent feasible. • Provide advance public notice, signage, and website information regarding restrictions to shoreline areas, parking lots, tennis courts, and options for other nearby recreation areas and parking areas. • Perform routine maintenance activities during periods of low park use. • Restore the shoreline using native Northwest plants, guidance from the Seward Park Vegetation Management Plan, and review and approval from Seattle Parks. • Restore the landscaping around the aboveground features with native plants and a planting plan that incorporates Olmsted design principles. • Improve ADA access to picnic shelters such as 3, 4, and 5. **Parking** • Provide advance public notice, signage, and website information regarding alternative parking locations. • Continue communications and outreach efforts, including briefings to community and stakeholder groups and SPU tables at events in Seward Park and other community events. • Place signage at the entrance of Seward Park showing locations of alternative parking locations within the park and alternative playground areas. • Provide drop off zone and short-term parking to unload passengers, strollers, kayaks, etc., near the entrance to Seward Park. • Provide temporary ADA parking spaces to replace those unavailable during construction. • Restore as many parking spaces as possible. • Restore use of parking lot as soon as feasible. **Special Events** • Coordinate construction hours with the scheduling of special events at Seward Park. • Suspend construction in the park during Seafair. • Work with Seattle Department of Parks and Recreation and event coordinators to find new staging locations (e.g., the Seward Park meadow or Genesee Park) for use during special events. • Avoid scheduling routine maintenance during special events. • Provide advance public notice, signage, and website information regarding construction dates. **Safety** • Install fencing around the construction site and clearly mark construction areas. • Use flaggers when trucks and heavy equipment enter or exit the park. • Monitor construction to confirm that the contractor complies with public safety plans. • Provide advance public notice, signage, and website information regarding construction dates.

Resources	Tennis Courts Alternative		Parking Lot Alternative		No Action Alternative [1]		Measures to Reduce or Eliminate Potential Impacts
	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	
Cultural Resources	• Loss of UPARR protection for aboveground features area is an adverse effect under Section 106 of the National Historic Preservation Act. • Adversely affect a contributing resource to the Seward Park Historic District and Designed Landscape by removing tennis courts during construction.	• Improve historic character by removal of trees near the tennis courts.	• Loss of UPARR protection for aboveground features area is an adverse effect under Section 106 of the National Historic Preservation Act. • Adversely affect a contributing resource to the Seward Park Historic District and Designed Landscape by removing bulkhead during construction.	• Improved historic character by removal of trees near Parking Lot 2.	• None	• None	• Transfer UPARR protection to area along Lake Washington shoreline. • Replace tennis courts following construction. • Maintain shoreline protection function of bulkhead using natural looking features more in keeping with Olmsted principles. • Likely, visually screen aboveground features with landscaping. • Follow procedures in RCW 68.60: Abandoned and Historic Cemeteries and Historic Graves, and RCW 27.44: Indian Graves and Records if human remains are discovered during project-related construction, maintenance, or operation activities. • Implement inadvertent discovery plan, as provided in Section 7.5 of the Cultural Resources Inventory report. In summary, if evidence of cultural artifacts or human remains, either prehistoric or historic, is encountered during excavation, work in that immediate area would be suspended and the find would be examined and documented by a professional archaeologist in consultation with SHPO and NPS.
Aesthetics, Light, and Glare	• Alter the visual character of the parks. • Potentially introduce new sources of light and glare.	• Rebuilt tennis courts, rebuilt/resurfaced parking lots, new landscaping, new natural looking shoreline, hatches, and several aboveground features.	• Same as the Tennis Courts Alternative.	• Same as the Tennis Courts Alternative.	• None	• None	• Locate the majority of the facilities underground; keep aboveground features to a minimum and likely screen with vegetation. • Screen construction equipment staging areas to buffer views of construction equipment and materials, where feasible. • Re-vegetate areas disturbed during construction. • Locate and aim any artificial lighting away from adjacent roadways and residential areas; use minimum wattage necessary to provide the necessary illumination.
Habitat, Wildlife, and Fish	• Disturb 1.43 acres of upland habitat. • Remove 43 trees, including 2 “exceptional” trees. • Prevent access to habitat within the limits of construction. • Water quality impacts to aquatic habitat and fish. • Burial of benthic aquatic invertebrates.	• Improve aquatic food web by improving water quality. • Improve shoreline habitat.	• Disturb 1.36 acres of upland habitat. • Remove 26 trees, including 10 “exceptional” trees. • Prevent access to habitat in the construction area. • Water quality impacts to aquatic habitat and fish. • Burial of benthic aquatic invertebrates.	• Same as the Tennis Courts Alternative.	• None	• Continued water quality impacts to aquatic habitat and fish due to continued sewage overflows.	• Limit work in Lake Washington during specific seasonal windows (July 16 – December 31) to avoid adverse impacts to fish. • Limit construction disturbances to the minimum area needed, the shortest duration, and the greatest distance away from water bodies, as practicable. • Develop and implement a Construction Stormwater and Erosion Control Plan (CSECP), including a Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention and Countermeasures Plan (SPCP), to reduce the potential for sediment, waste materials, construction-related leaks, and spills to contaminate surface, ground, and runoff water. • Implement measures to contain turbidity (e.g., sheeted trenches, silt curtains) for in-water work related to the CSO pipe replacement. • Take appropriate precautions when storing equipment, hazardous fuels, and other materials used in construction of the project. • Provide an emergency response plan in accordance with the SPU spill prevention plan and know proper hazardous material storage, handling, and emergency procedures, including spill notification and response requirements. • Implement appropriate BMPs from the City of Seattle’s Stormwater Code SMC 22.800 – 22.808, Director’s Rule: 2009-004 SPU/16-2009 DPD, and Volume 2 Construction Stormwater Control Technical Requirements Manual to control erosion and sediment transport from the project site during construction. • Provide water quality treatment as necessary to improve the quality of stormwater flows from adjacent impervious surfaces. • Develop and implement a revegetation plan in accordance with the Seward Park Vegetation Management Plan.

Resources	Tennis Courts Alternative		Parking Lot Alternative		No Action Alternative [1]		Measures to Reduce or Eliminate Potential Impacts
	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	
Transportation	• Increase traffic volume and delays (maximum delay of 3.5 seconds at an intersection) from construction. • Potentially damage roads. • Impact to bicyclists.	• None	• Same as the Tennis Courts Alternative.	• None	• None	• None	• Schedule the construction of project elements so they do not overlap, when feasible, to reduce the number of vehicle trips occurring at one time. • Provide information at Seward Park and on SPU and Seattle Parks websites regarding alternate routes drivers and bicyclists could use to avoid construction traffic. • Perform a condition assessment on the construction route prior to the proposed project so roads could be restored to their prior condition or better.
Water Resources	• Potentially introduce sediment and other pollutants via runoff or disturbance of potentially contaminated soil near the existing CSO outfall pipe. However, uncontrolled discharges will be avoided by mitigation measures (see far right column). • Temporary localized lowering of groundwater table near CSO storage tank.	• Improved water quality due to reduced frequency and volume of CSO events and the addition of stormwater treatment in Parking Lot 1.	• Same as the Tennis Courts Alternative.	• Same as the Tennis Courts Alternative, except the stormwater treatment would be for Parking Lot 2 and part of its access road.	• None	• Continued water quality impacts due to continued sewage overflows.	• Limit construction disturbances to the minimum area needed, the shortest duration, and the farthest distance away from water bodies, as practicable. • During construction, implement Best Management Practices (BMPs), as identified in the City of Seattle's Stormwater Code SMC 22.800 – 22.808, Director's Rule: 2009-004 SPU/16-2009 DPD, and Volume 2 Construction Stormwater Control Technical Requirements Manual to control erosion and sediment transport from the project site. Typical measures include silt fencing, plastic sheeting, and straw wattles to prevent sediment discharge. • Develop and implement a Construction Stormwater and Erosion Control Plan (CSECP), including a Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention and Countermeasures Plan (SPCP) to reduce the potential for sediment, waste materials, construction-related leaks, and spills to contaminate surface, ground, and runoff water. • Provide water quality treatment as necessary to improve the quality of intercepted stormwater flows from adjacent impervious surfaces. • Re-vegetate disturbed shorelines.
Air Quality, Odor, and Climate Change	• Generate particulate matter, carbon monoxide, and nitrogen dioxide. • Generate construction odors. • Produce greenhouse gases.	• Potentially generate sewer odors. • Produce greenhouse gases.	• Same as the Tennis Courts Alternative, except quantities generated would be slightly different.	• Same as the Tennis Courts Alternative.	• None	• None	• Follow best management practices for controlling fugitive dust. • Minimize odors by incorporating odor control and automated flushing systems into the design of the CSO storage tank, minimizing the time combined sewage is stored in the tank, maintaining the air space in the tank at slightly negative pressure, providing odor control, and scheduling maintenance of the odor control system during cold temperatures and periods of low flow. • Encourage practices that reduce greenhouse gas emissions such as limiting idling of equipment, encouraging construction workers to carpool, and buying products manufactured/produced locally.
Geology	• Vibration or ground movement (higher potential impacts to residences compared to park facilities). However, with proposed mitigation measures (see far right column) implemented, SPU does not anticipate damage to nearby structures.	• None	• Same as the Tennis Courts Alternative, except excavated quantities would be slightly different and the potential for vibration and ground movement would be higher at nearby park facilities compared to nearby residences.	• None	• None	• None	• Use construction methods that do not produce significant vibration, such as secant pile walls (vertical elements drilled into place) or drilled/grouted shoring systems, to not impact adjacent structures. • Specify threshold vibration levels in the contract documents. • Perform pre and post-construction surveys of nearby structures and utilities. • Implement a monitoring program to measure vibration levels and any movement of nearby existing structures. • If blasting is used for excavation, specify a threshold value for air overpressure based on acceptable levels; control the powder factor, the charge weight per delay, and delay pattern; and provide proper stemming, blasting mats, and proper relief for each blast. • Dispose of excavated soil at an appropriate, permitted, offsite disposal facility.

Resources	Tennis Courts Alternative		Parking Lot Alternative		No Action Alternative [1]		Measures to Reduce or Eliminate Potential Impacts
	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	
Land and Shoreline Uses	• None	• The presence of the project facilities would result in a dedicated use of the sub-surface area and would restrict certain future uses in the surface area.	• None	• Same as the Tennis Courts Alternative.	• None	• None	• Return the project area affected during construction to pre-construction conditions or better.
Noise and Environmental Hazards	• Increased noise levels at both nearby residences and park facilities (however, higher noise levels at residences compared to park facilities). • Potentially release hazardous material.	• Increased noise levels at nearby residences and park facilities (however, higher noise levels at residences compared to park facilities).	• Same as the Tennis Courts Alternative, except for noise impacts, noise levels would be higher at nearby park facilities compared to nearby residences.	• Same as the Tennis Courts Alternative, except for noise impacts, noise levels would be higher at nearby park facilities compared to nearby residences.	• None	• None	• Encourage noise-reducing measures such as using sound-control devices on equipment, prohibiting equipment with unmuffled exhaust, minimizing idling time of equipment and vehicles, and installing acoustic barriers around stationary sources of construction noise. • Conduct on-site noise monitoring to ensure compliance with SMC provisions, if necessary. • Perform sediment characterization sampling and analysis near the existing CSO outfall for the potential contaminants that may include the following parameters: petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds, and priority pollutant metals. If contaminants are found, limit their migration by best management practices, such as use of underwater silt curtains and sheet piles, and disposing of sediments in an approved offsite facility. • Develop and implement plans for pollution prevention, to control and manage spills, and for sediment handling, testing, and disposal.
Energy and Natural Resources	• Consumption of fuel and electricity. • Use of petroleum, rock, gravel, and sand, metals, water, and plants.	• Consumption of fuel and electricity. • Use of petroleum and metals.	• Same as the Tennis Courts Alternative.	• Same as the Tennis Courts Alternative.	• None	• None	• Encourage efficient energy use, such as limiting idling equipment, and encouraging construction workers to carpool. • Acquire natural resources, such as backfill material and concrete mix, from local stockpiles to reduce the energy consumption associated with transportation of those materials. • Size equipment used within the facility to maximize energy efficiency.
Public Services and Utilities	• Potentially reduced response times for police, fire, and safety services.	• Use of water. • Improved sewer system. • Treated storm water. • Use of electricity.	• Same as the Tennis Courts Alternative.	• Same as the Tennis Courts Alternative.	• None	• None	• Notify law enforcement and fire and safety agencies of estimated truck trips and schedules so they can adjust their service area and routes as needed to maintain response times. • Notify law enforcement and fire/emergency services providers in advance when access to Seward Park would be reduced. • Recycle and compost construction debris to the extent possible to minimize solid waste.
Environmental Justice	• Potential to disproportionately affect the more diverse minority population that uses Seward Park.	• No disproportionate impacts.	• Same as the Tennis Courts Alternative.	• Same as the Tennis Courts Alternative.	• None	• None	• Measures implemented for the other resources would also benefit environmental justice populations.

[1]For the purpose of this table, the focus of the No Action Alternative is not building the CSO storage tank. While the existing CSO outfall would be replaced under the No Action Alternative as part of the SPU Outfall Rehabilitation Program, the impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

2 Introduction to the Project

2.1 What is the purpose and need of the Henderson Basin 44 CSO Reduction Project?

The purpose of the Henderson Basin 44 CSO Reduction Project is to reduce the number and volume of untreated CSO events in Basin 44, thus reducing the amount of untreated wastewater entering Lake Washington. Basin 44 is in southeast Seattle and extends along the western shoreline of Lake Washington (see Figure 2-1).

Sewers in the project area carry raw sewage away from the neighborhood for treatment at King County's West Point and South treatment plants before discharge to Puget Sound. When it rains, these same sewers also carry untreated stormwater from neighborhood roofs, foundation drains, and some streets. During heavy rains, if the amount of raw sewage and untreated stormwater exceeds the sewer system capacity, the excess flows discharge into Lake Washington. These “Combined Sewer Overflows” or “CSOs” are a public health and environmental concern. The purpose of the Henderson Basin 44 CSO Reduction Project is to reduce the number and volume of these sewage overflows into Lake Washington.

The proposed project consists of building a 2.4 MG underground storage tank to store excess sewage and stormwater flows in Basin 44 during heavy rain events to prevent excess flows from discharging into Lake Washington. The proposed project would be located in Seward Park, which is owned and managed by Seattle Parks, and includes additional infrastructure, shoreline, and landscape improvements. Detailed project descriptions are in Chapter 3 Alternatives.

The proposed project is needed to protect public health, improve water quality in Lake Washington, and comply with regulations by reducing the number of CSO events in Basin 44 to a long-term average of no more than one untreated discharge per year per outfall.

2.2 What is a CSO?

A combined sewer overflow, or CSO, is a discharge of untreated sewage and stormwater into a receiving body of water, such as Lake Washington. CSOs are a public health concern because they carry pollutants, primarily untreated sewage and stormwater runoff, into the receiving water bodies. CSOs are related to the type of sewer system. The City has three types of sewer systems:

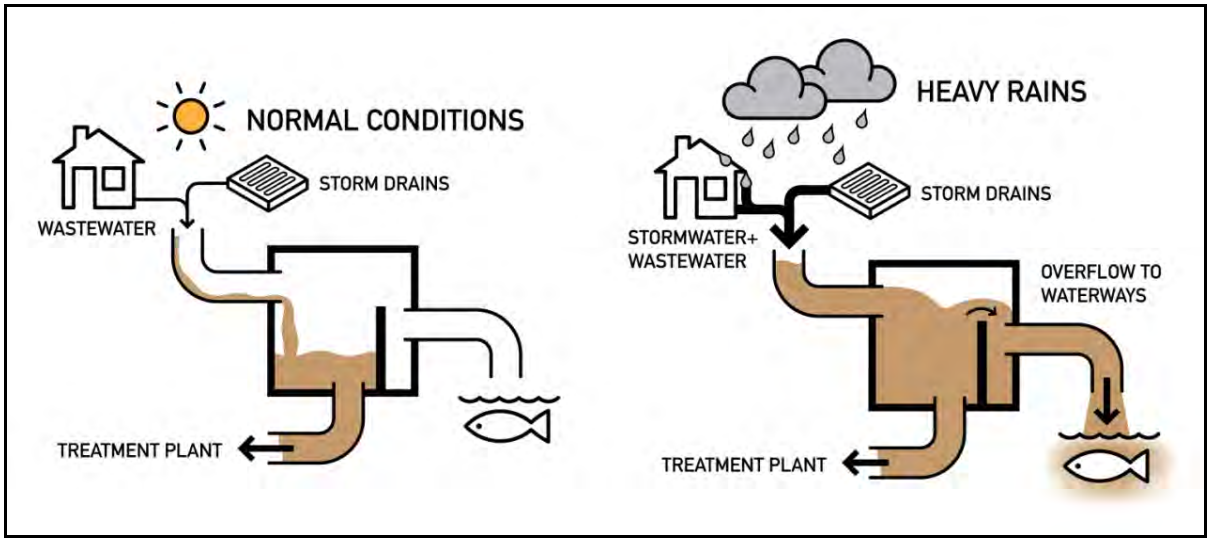
- **Combined Sewer Systems** convey both sewage and stormwater in the same pipe. The sewage is generated from homes and businesses. The stormwater is generated from sources such as streets, parking lots, roof drains, and foundation drains.

  Under dry weather conditions, the flows in the combined sewer system, which are primarily sewage, are sent to a wastewater treatment plant. The treated effluent is discharged into receiving water bodies. Under wet weather conditions, sewage and stormwater both enter the combined sewer system. As long as the flows are within the capacity of the combined sewer system, all of the flows are conveyed to a wastewater

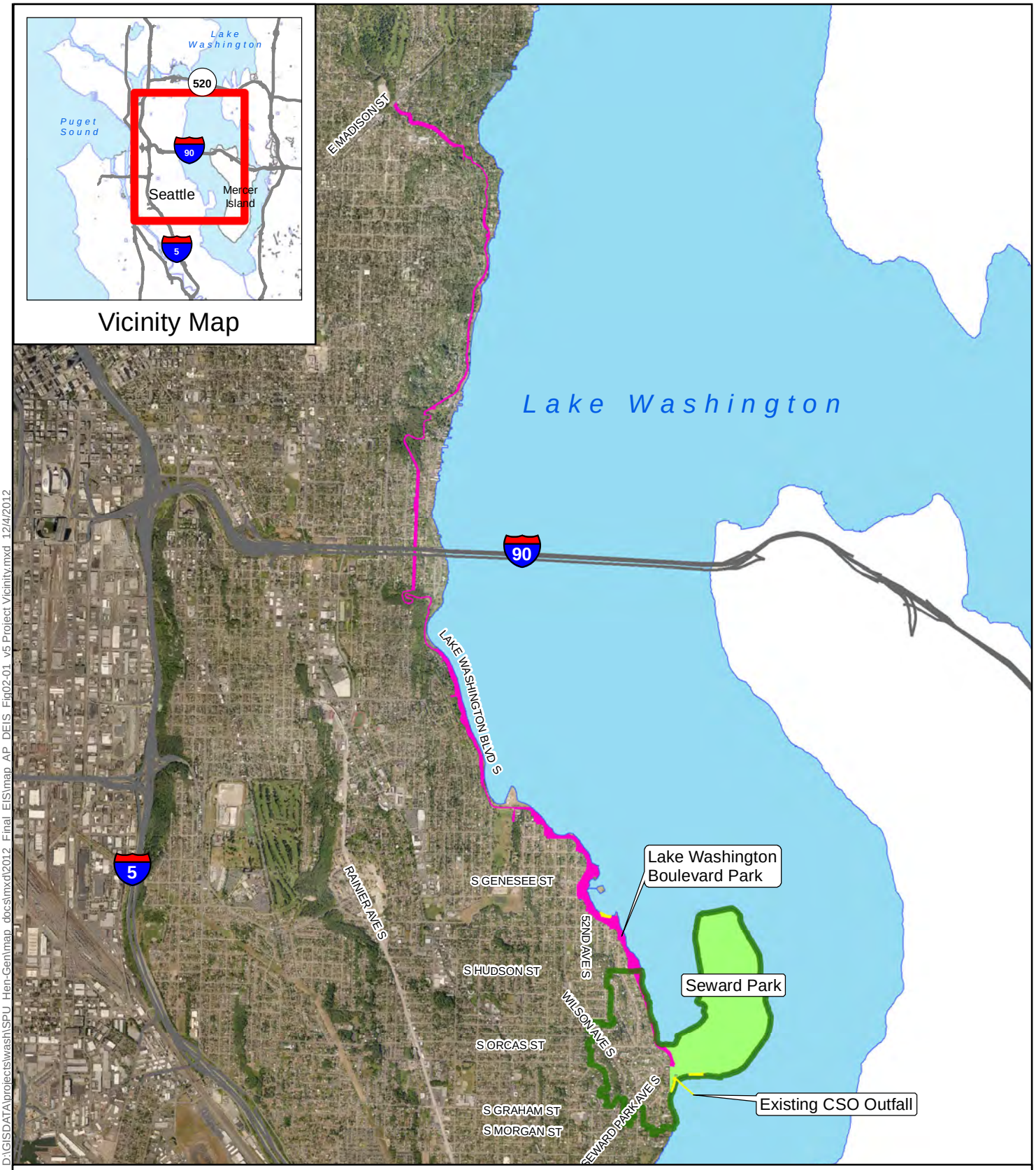
treatment plant. However, if flows in the combined sewer exceed the capacity of the system, the excess flow of untreated sewage and stormwater discharges into receiving water bodies through permitted outfalls. This discharge is called a "Combined Sewer Overflow" or "CSO."

- **Separated Sewer Systems** convey sewage and stormwater in two distinct systems: a sanitary sewer system and a drainage system. The sanitary sewer system primarily collects sewage, and conveys it to a treatment plant. The drainage system collects only stormwater, and conveys it directly to local water bodies or, in some cases, partially treats it and then sends it to local water bodies.
- **Partially Separated Systems** are hybrid systems where sewage and some stormwater flows are handled in one system, while other stormwater flows are conveyed separately. In Seattle, stormwater from private property (such as roof drains and private parking lots) typically flows to the combined sewer system. Stormwater from public property (such as streets and rights-of-ways) typically flows to separate storm drains that convey the stormwater directly to receiving water bodies.

The two images below depict what occurs under normal conditions and under heavy rain conditions in combined sewer systems.



In a combined sewer system, CSO events may occur during heavy rains.



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Legend

- Lake Washington Blvd Park (to Madison St.)
- Seward Park
- Basin 44
- Potential Project Areas

0 2,000 4,000 8,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PROJECT VICINITY

JANUARY 2013 | **FIGURE 2-1**

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2.3 How are CSOs regulated?

The federal Clean Water Act[1] requires that municipalities obtain authorization to discharge wastewater (like CSOs) into surface water bodies. To implement this authorization, the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) Permit program. In Washington, the Washington State Department of Ecology (Ecology) administers the NPDES Permit program. Ecology issued SPU's most recent CSO NPDES permit (WA-033168-2) in October 2010. This permit allows wet weather discharges from certain permitted CSO outfalls.

Washington State law (Revised Code of Washington [RCW] 90.48.480[2]) requires local governments to achieve a reasonable reduction in CSOs at the earliest possible date. Per Washington regulations (WAC 173-245-240), the greatest reasonable reduction is defined as a long-term average of no more than one untreated discharge per year per outfall. In October 2010, Ecology and SPU signed Agreed Order 8040, stipulating that the deadline for achieving the greatest reasonable reduction is December 31, 2025. On an annual basis, SPU is required to report the duration and volume of each CSO discharge during the most recent year, steps taken during the most recent year to reduce CSOs, the CSO outfalls now meeting the definition of greatest reasonable reduction (a long-term average of no more than one untreated discharge per year per outfall), and work planned for the next year to reduce CSOs. In 2015, SPU is required to submit an updated plan to Ecology, describing the remaining projects that will be implemented to reduce and bring CSOs under control.

2.4 Why is the proposed project needed now?

Basin 44 exceeds the regulatory requirement of a long-term average of no more than one untreated discharge per year per outfall, and it discharges into a highly-sensitive receiving water body, Lake Washington. From 1998 to 2011, Basin 44 had approximately 17 CSO events per year, with an average annual volume of approximately 37 MG of untreated CSO discharge. SPU's current NPDES permit requires that SPU begin construction of a project to reduce CSOs from Basin 44 by May 31, 2015.

2.5 What makes up the sewer system in Basin 44?

The sewer system in Basin 44 is considered a partially separated system. The sewer system was constructed in the 1910s and 1920s as combined sewers, and modified so stormwater from public streets and parking lots is conveyed in storm drains instead, leaving only the stormwater runoff from private property in the combined sewers (see Figure 2-2).

SPU built a CSO storage facility in Basin 44 in 1985. The facility, called "CSO Facility 8," provides approximately 50,000 gallons of excess flow storage in two parallel, large-diameter (72- and 84-inch) pipes and is located in Seward Park, adjacent to the tennis courts. Control

[1] 33 United States Code (U.S.C.) § 1251 et seq. (1972): Clean Water Act

[2] RCW 90.48.480: Reduction of Sewer Overflows – Plans – Compliance Schedule

structures near the storage pipes route flows to treatment facilities (either King County's West Point Treatment Plant or South Treatment Plant), to storage, or to a CSO outfall, depending on the volume of flows. Basin 44 has a CSO outfall, built in 1932, that consists of a 24-inch-diameter wood pipe that extends approximately 680 feet from shore.

2.6 How was the preferred alternative identified and how was the public involved in the process?

SPU identified and analyzed a number of alternatives to control CSOs in the vicinity of Seward Park (Basin 44). The process of identifying and analyzing alternatives was completed in conjunction with a public participation process that began in Summer 2010. The process was as follows:

- Step 1 – Identify and Evaluate High-level CSO Control Options
- Step 2 – Identify and Evaluate Storage Themes and Sewer Separation/Natural Drainage Systems
- Step 3 – Identify and Evaluate General Storage Locations
- Step 4 – Identify and Evaluate Site-Specific Storage Alternatives

Step 1 – Identify and Evaluate High-Level CSO Control Options

In 2010, SPU began with identifying four high-level CSO control options for Basin 44. A "CSO control option" is a technology that can be implemented to reduce CSOs. The four high-level CSO control options were: treatment, storage, sewer separation and Natural Drainage Systems, and flow transfers. These control options were evaluated for costs, technical feasibility, and community impacts. The evaluation identified storage and sewer separation/Natural Drainage Systems as the only viable CSO control options. SPU held a public workshop on November 18, 2010, to present the options and their evaluation.

Step 2 – Identify and Evaluate Storage Themes and Sewer Separation/Natural Drainage Systems

SPU identified and evaluated sewer separation/Natural Drainage Systems and three different storage themes: tunnel storage, pump and storage in Martha Washington Park, and storage in the vicinity of Seward Park. The storage themes and the sewer separation/Natural Drainage Systems option were evaluated for their costs and impacts. SPU held three public workshops on December 14, 2010, January 19, 2011, and March 10, 2011, to discuss the evaluation. The evaluation identified storage in the vicinity of Seward Park as the viable storage theme for Basin 44.

Step 3 – Identify and Evaluate General Storage Locations

SPU identified three general storage locations in the vicinity of Seward Park:

- Storage underneath private property
- Storage underneath Lake Washington Boulevard South
- Storage in Seward Park

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Legend

- SPU Drainage Pipe
- SPU Sanitary Sewer Pipe
- SPU Combined Sewer Pipe
- Existing CSO Storage
- Basin 44
- Potential Project Areas
- Road

0 300 600 1,200 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

EXISTING SEWER SYSTEM BASIN 44

JANUARY 2013 | **FIGURE 2-2**

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For each of the general storage locations, representative locations were identified to provide an example of where the storage facility would be located and its costs and impacts. Through the public process and SPU's evaluation of the costs and benefits, SPU selected storage in Seward Park as its general storage location. The public workshops held on December 14, 2010, January 19, 2011, and March 10, 2011 included the evaluation of the general storage location.

Step 4 – Identify and Evaluate Site-Specific Storage Alternatives

In Summer 2011, SPU identified and developed two site-specific alternatives for storage in Seward Park. Those two alternatives were the Tennis Courts Alternative and the Parking Lot Alternative. The two site-specific alternatives were presented at a scoping meeting for the Draft EIS on June 7, 2011. (See following paragraph for details on the scoping process.) Following the scoping meeting, SPU analyzed the environmental impacts of the alternatives and issued a Draft EIS for public review.

Prior to the EIS scoping meeting and in accordance with the State Environmental Policy Act (SEPA), SPU issued a Determination of Significance and Request for Comments on Scope of EIS (DS) on May 26, 2011 (see Appendix A). The DS described the purpose of the proposed project, the three alternatives that would be considered in an EIS (Parking Lot Alternative, Tennis Courts Alternative, and No Action Alternative), and the environmental elements that would be discussed in the EIS. The DS invited agencies, affected tribes, and members of the public to comment on the scope of the EIS; provided the date, time, and location of the public scoping meeting; provided the name, address, email address, and phone number of the SEPA Responsible Official; and directed people to respond with their comments via email or in writing by June 16, 2011 to the SEPA Responsible Official. Additional SEPA required public notification included the following:

1. The DS was posted on the Seattle Department of Planning and Development's Land Use Bulletin on May 26, 2011.
2. The DS was posted on the Washington State Department of Ecology's SEPA Register on May 26, 2011.
3. The DS was published in the Daily Journal of Commerce on May 26, 2011.
4. The DS was published in the South Seattle Beacon on June 1, 2011.
5. The DS was mailed to agencies with jurisdiction and to organizations and individuals who had provided written request for such notices (see DS Distribution List in Appendix A).
6. The DS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower.

Additional voluntary public outreach included the following:

1. The DS was posted on SPU's North Henderson project website.
2. The DS was mailed to additional organizations SPU assumed might have an interest in the project (see DS Distribution List in Appendix A).

3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix A, approximately 1,700 total), notifying residents of the EIS scoping process; the date, time, and location of the scoping meeting; and the address and deadline for submitting scoping comments.
4. One of the postcards also was posted on the project sign at Seward Park.
5. An email announcing the public scoping meeting was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
6. A notice was posted on the City's online public outreach and engagement calendar.
7. Advanced meeting notice was provided in the Rainier Valley Post.
8. Meeting flyers were delivered to community centers, public libraries, synagogues, and post offices.
9. A community guide to the proposed project was developed for the scoping meeting to help explain the proposed project and the three alternatives to the public.
10. A comment form was developed for the scoping meeting, to help encourage meeting attendees to provide input and feedback.
11. Following the scoping meeting, the community guide and the comment form were posted on SPU's North Henderson project website.
12. Following the scoping meeting, a scoping summary report was prepared and posted on the SPU's North Henderson project website.

Fourteen people attended the scoping meeting, and eight people submitted comments. The scope of the EIS was adjusted to reflect scoping input, and the environmental impacts of each alternative were analyzed.

The environmental analysis indicated that both the Parking Lot Alternative and the Tennis Courts Alternative would have environmental impacts, some of which were the same for these two alternatives and some of which were not. Once the environmental analysis was complete, SPU identified the preferred alternative based on a review of the types of impacts and their significance. The Tennis Courts Alternative was identified as the preferred alternative because: (a) Seward Park is a destination park; visitors from all over the Seattle area come to the Park to enjoy its many amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). SPU then prepared a Draft EIS summarizing the findings of the environmental analysis and indicating the preferred alternative.

SPU issued a Notice of Availability of the Draft EIS on September 17, 2012 (see Appendix A). The Notice of Availability described the purpose of the proposed project and the three alternatives that were considered in the Draft EIS (Parking Lot Alternative, Tennis Courts Alternative, and No Action Alternative). The Notice of Availability invited agencies, affected tribes, and members of the public to comment on the Draft EIS; provided the date, time, and location of the Draft EIS public hearing; provided the name, address, email address, and phone number of the project manager and the SEPA Responsible Official; and directed people to respond with their comments via email or in writing by October 17, 2012 to the SEPA Responsible Official. Additional SEPA required public notification included the following:

1. The Notice of Availability was posted on the Seattle Department of Planning and Development's Land Use Bulletin on September 17, 2012.
2. The Notice of Availability was posted on the Washington State Department of Ecology's SEPA Register on September 17, 2012.
3. The Notice of Availability was published in the Daily Journal of Commerce on September 17, 2012.
4. The Notice of Availability was published in the Seattle Times on September 17, 2012.
5. The Notice and the DEIS were mailed to agencies with jurisdiction, organizations and individuals who requested copies, and organizations and individuals who commented during the scoping process (see Draft EIS Distribution Lists in Appendix A).
6. The Draft EIS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower and the Seattle Central Library.

Additional voluntary public outreach included the following:

1. The Notice of Availability and Draft EIS were posted on SPU's North Henderson project website.
2. The Notice of Availability, or the Notice of Availability and Draft EIS, were mailed to additional individuals and organizations SPU assumed might have an interest in the project (see Notice of Availability and Draft EIS Distribution Lists in Appendix A).
3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix A, approximately 1,700 total), notifying residents of the date, time, and location of the Draft EIS public hearing; providing the address and deadline for submitting comments on the Draft EIS; and providing the address of SPU's North Henderson project website for more information.
4. An email announcing the public hearing was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
5. SPU staff contacted the individuals whose property adjoins the tennis courts to ensure they knew about the Draft EIS and the public hearing.

Twenty-eight people attended the public hearing and nine individuals testified. Comments also were received by email and by US Postal Service from nineteen individuals, organizations, and agencies. The comments and responses are included in Appendix B.

In 2013, there will be an additional opportunity for the public to provide input on the Tennis Courts Alternative and the Parking Lot Alternative at a City Council public hearing to address the requirements of Seattle City Ordinance 118477 (aka, "Initiative 42"). Per Initiative 42, the Seattle City Council must hold a public hearing prior to making a determination whether there is "no reasonable and practical alternative" to constructing the facility in Seward Park. Similarly, the City Council will decide which of the two locations within Seward Park (tennis courts vs. parking lot) is preferred. Finally, the City Council will make a determination whether or not the proposed underground storage tank is "compatible with park use." SPU expects the City Council to hold the public hearing and make these determinations in 2013.

2.7 Why and how was this Environmental Impact Statement developed?

SPU developed this Environmental Impact Statement (EIS) to comply with SEPA[3], which requires state and local agencies to consider the likely environmental consequences of a proposal before approving or denying the proposal. Under SEPA rules[4], a lead agency is designated as responsible for complying with SEPA requirements. SPU is serving as the lead agency for the Henderson Basin 44 CSO Reduction Project, and has determined that this proposal could have a significant adverse impact on the environment. This was recorded in the Determination of Significance (DS) that SPU issued for the proposed project on May 26, 2011 (SPU 2011a). Because there could be a significant impact on the environment and a DS was issued, SEPA requires that an EIS be prepared.

The project's potential impact on recreation is a key element of the analysis in the EIS.

The primary purpose of an EIS is to ensure that SEPA's policies are an integral part of the ongoing programs and actions of state and local government[5]. State and local codes[6] list the required content of an EIS and identify elements of the environment for potential discussion.

Scoping is the first step in the EIS process. The purpose of scoping is to narrow the focus of the EIS to significant

[3] Chapter 43.21C RCW: State Environmental Policy Act

[4] Chapter 197-11 WAC: SEPA Rules; SMC 25.05: Environmental Policies and Procedures

[5] WAC 197-11-400: Purpose of an EIS; SMC 25.05.400A: Purpose of an EIS

[6] WAC 197-11-440: EIS contents; WAC 197-11-444: Elements of the environment; SMC 25.05.440 EIS contents; SMC 25.05.444: Elements of the environment

environmental issues, to eliminate insignificant impacts from detailed study, and to identify alternatives to be analyzed in the EIS. During the scoping process (SPU 2011b), it was determined that the natural and built environmental elements listed in Table 2-1 would be included for evaluation of affected environment and impacts in the EIS with more detailed analyses conducted for recreation and transportation.

Table 2-1. Environmental Elements Included in EIS

Natural Environment	Built Environment
• Geology • Air, Odor, and Climate Change • Water Resources • Habitat, Wildlife, and Fish • Energy and Natural Resources	• Recreation • Transportation • Noise and Environmental Hazards • Land and Shoreline Uses • Cultural Resources • Public Services and Utilities • Environmental Justice • Aesthetics, Light, and Glare

2.8 What is the federal nexus for this project?

As discussed in Chapter 1, Seward Park previously received federal grant funding from the NPS under UPARR for improvements in several areas of the park (see Appendix C for more information regard UPARR). If the proposed project is to proceed, UPARR requirements must be met. Other lands must be placed under the protection of the UPARR grant or other improvements must be implemented. SPU would meet this condition by requesting that the NPS transfer the UPARR protection to other land located in Lake Washington Boulevard Park. The NPS must examine the potential impacts to recreation from the proposed transfer of UPARR protection to a new location, and any impacts this action would have on the rest of Seward Park.

Specifically, Section 1010 of the Urban Park and Recreation Recovery Act of 1978, as amended, Public Law 95-625, protects recreational sites rehabilitated through the UPARR program:

> *No property improved or developed with assistance under this chapter shall, without the approval of the Secretary, be converted to other than public recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the current local park and recreation recovery action program and only upon such conditions as he deems necessary to assure the provision of adequate recreation properties and opportunities of reasonably equivalent location and usefulness.*

Based on coordination with NPS, it is anticipated that NPS would adopt this SEPA EIS to satisfy the requirements of the National Environmental Policy Act (NEPA 42 U.S.C. § 4321) created by the federal action of transferring UPARR protection. Section 40 CFR Part 1506.3, Adoption, describes adopting a SEPA EIS.

Chapter 3 Alternatives discusses this transfer of the UPARR grant protections in more detail.

2.9 What are direct, indirect, and cumulative impacts?

Direct impacts are caused by the project action and occur at the same time and place (40 CFR 1508.8(a), SMC 25.05.670). Direct impacts can be either short-term and temporary or long-term. For this EIS, the direct impact analysis for each discipline is divided into during construction and after construction.

Indirect impacts are caused by the proposed project and occur later in time or are farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8(b), SMC 25.05.670). Indirect impacts result from one project but unlike direct impacts may involve a chain of cause-and-effect relationships that can take time to develop and occur at a distance from the proposed project site. Oftentimes, indirect impacts on a resource are the result of changes to another resource in the area, so cross-resource interactions must be considered as well. This makes indirect impacts difficult to predict and usually requires a qualitative estimate more general than estimates of direct impacts.

Cumulative impacts are impacts on the environment that would result from the incremental impacts of the proposed project 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. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7). A cumulative impact is also the proposed project's direct and indirect impacts on a particular resource, combined with the past, present, and future impacts of other human activities on that same resource. The result is the likely expected future condition of the resource when all of the external factors known or likely to affect it are taken into account. Chapter 17 Cumulative Impacts includes additional information on cumulative impacts.

3 Alternatives

3.1 What alternatives are analyzed in this EIS?

3.1.1 Tennis Courts and Parking Lot Alternatives

The Tennis Courts and Parking Lot Alternatives consist of the following four main elements (see Figure 1-1). The two alternatives would be similar; the main difference would be the location of the CSO storage tank and shoreline treatment.

- An underground 2.4 MG CSO storage tank and associated infrastructure
- Shoreline treatment
- Replacement of an existing CSO outfall pipe
- Transfers of UPARR grant protections and upland landscaping enhancements

The first three elements are located in Seward Park. Figure 3-1 shows these elements for the Tennis Courts Alternative and Figure 3-2 shows these elements for the Parking Lot Alternative. The fourth element is located in a portion of Lake Washington Boulevard Park approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South (see Figure 3-3).

Location for the Tennis Courts Alternative

Location for the Parking Lot Alternative

3.1.1.1 CSO Storage Tank and Associated Infrastructure

The CSO storage tank and associated infrastructure include the following:

New CSO Storage Tank: A new, underground 2.4 MG CSO storage tank would be built in the southwest corner of Seward Park, next to Lake Washington. The CSO storage tank would be located under the tennis courts and an adjacent parking lot (Parking Lot 1) for the Tennis Courts Alternative and under a different parking lot (Parking Lot 2) for the Parking Lot Alternative. These two locations are approximately 300 feet apart.

For the Tennis Courts Alternative, the exterior dimensions of the tank would be approximately 390 feet long by 50 feet wide by 30 feet deep. For the Parking Lot Alternative, the exterior dimensions of the tank would be approximately 375 feet long by 50 feet wide by 30 feet deep. The difference in length between the alternatives is due to site conditions that require a slight bend in the tank for the Tennis Courts Alternative.

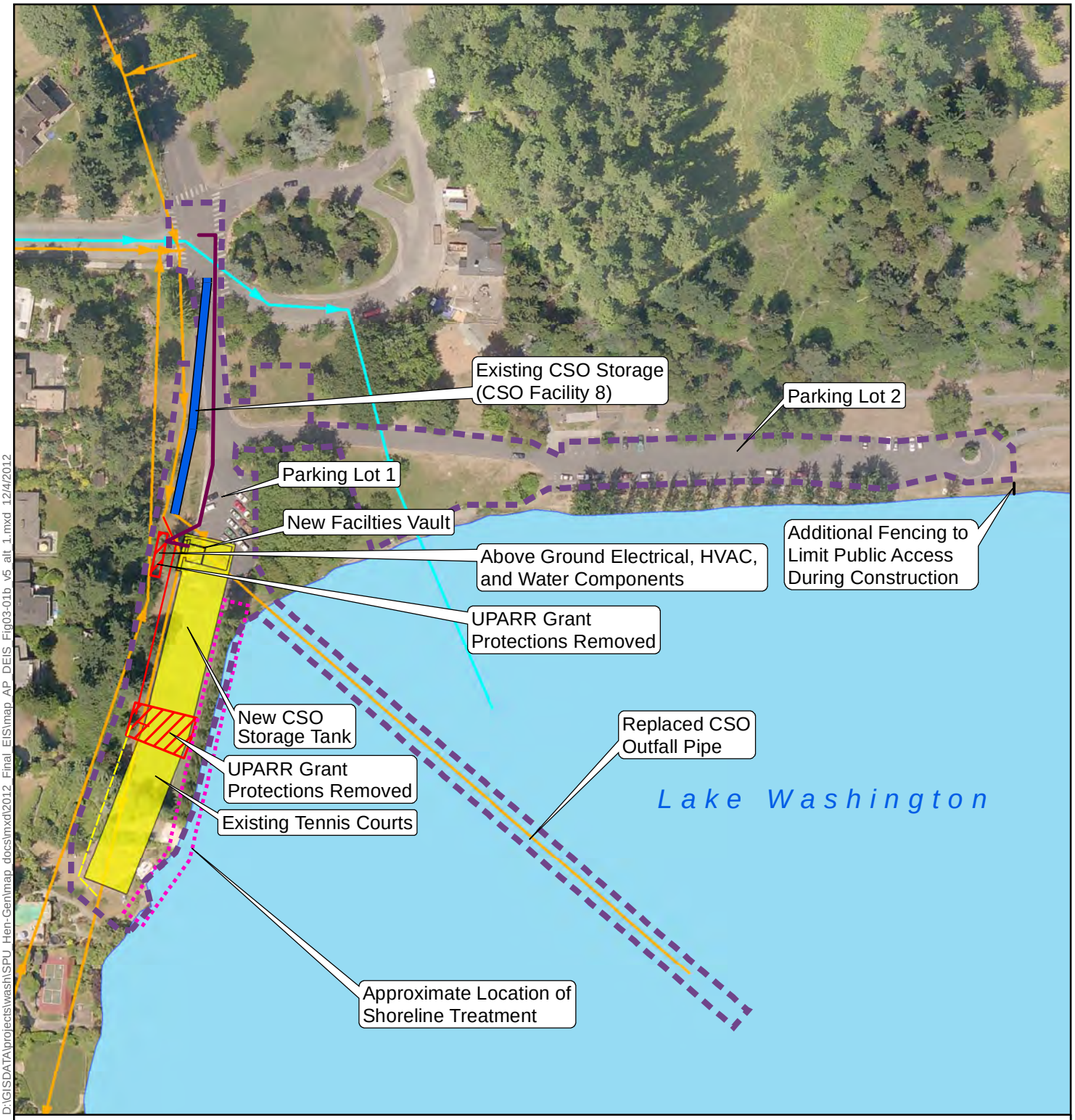
Access to the tank would be by hatches located between the two restored tennis courts. The size of the access hatches would range from approximately 2½ feet square to 3 feet wide by 6 feet long. This area would have the NPS' UPARR grant protections removed from it.

The required capacity of the tank was determined based on computer modeling and monitoring data that determined the volume of flows needed to be controlled to limit future CSO events to a long-term average of no more than one untreated discharge per year.

New Facilities Vault: An underground facilities vault attached to the CSO storage tank would contain odor control, mechanical, electrical, and control systems. The facilities vault would be attached to the northern end of the CSO storage tank for the Tennis Courts Alternative and to the eastern end of the CSO storage tank for the Parking Lot Alternative. Access to the vault would be by hatches and stairs from ground level in the respective parking lots. The size of the access hatches would range from approximately 2½ feet square to 4 feet wide by 14 feet long. The exterior dimensions of the facilities vault would be approximately 35 feet long by 50 feet wide. The depth from ground level to the vault floor would be approximately 10 feet.

New Aboveground Features: An area approximately 50 feet long by 15 feet wide (750 square feet) would contain several aboveground features. The area with the aboveground features would be just west of the facilities vault for the Tennis Courts Alternative and directly north of the facilities vault for the Parking Lot Alternative. This area would have the NPS' UPARR grant protections removed from it. The aboveground features would include the following:

- One electrical cabinet approximately 3 feet long by 1.5 feet wide by 6 feet high.
- Two heating, ventilation, and air conditioning (HVAC) air intakes approximately 3 feet long by 3 feet wide by 2 feet high.
- Two HVAC air exhausts approximately 3 feet long by 3 feet wide by 2 feet high.
- One odor control exhaust approximately 3 feet long by 3 feet wide by 2 feet high.
- An enclosure containing a reduced pressure backflow assembly associated with the potable water used to flush the tank, approximately 2.5 feet long by 1 foot wide by 1.5 feet high.



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Legend

- UPARR Grant Protections Removed
- Potential Limits of Construction
- Fence Outside Limits of Construction
- Existing CSO Storage
- Shoreline Treatment
- SPU Combined Sewer Pipe
- SPU Drainage Pipe
- New Combined Sewer Pipe
- Relocated Combined Sewer Pipe
- New Water Pipe

0 60 120 240 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

TENNIS COURTS ALTERNATIVE
MAIN COMPONENTS IN SEWARD PARK

JANUARY 2013 | **FIGURE 3-1**

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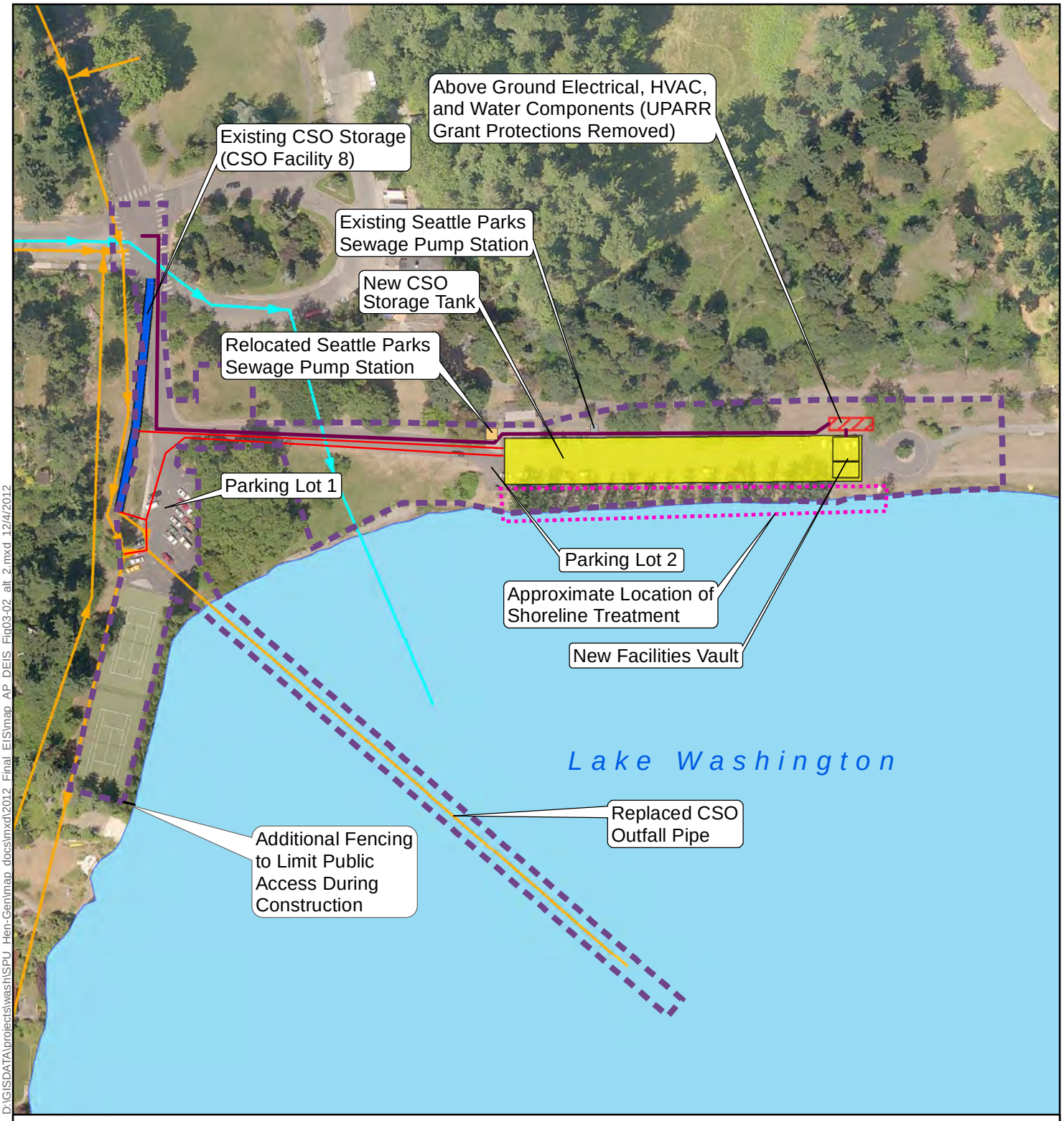

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Legend

- UPARR Grant Protections Removed
- Potential Limits of Construction
- Fence Outside of Limits Construction
- Existing CSO Storage
- Shoreline Treatment
- SPU Combined Sewer Pipe
- SPU Drainage Pipe
- New Combined Sewer Pipe
- New Water Pipe

0 60 120 240 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PARKING LOT ALTERNATIVE
MAIN COMPONENTS IN SEWARD PARK

JANUARY 2013 | **FIGURE 3-2**

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Legend

- Area Receiving New UPARR Grant Protections
- Upland Landscaping Enhancements

0 25 50 100 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

UPARR REPLACEMENT AREA
MAIN COMPONENTS

JANUARY 2013 | **FIGURE 3-3**

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New Sewer Pipes: New sewer pipes would convey flows to and from the new CSO storage tank. Flows would be conveyed to the CSO storage tank by gravity and pumped in force mains from the CSO storage tank. The gravity pipes would include approximately 250 feet of 36- to 48-inch-diameter sewer pipes for the Tennis Courts Alternative and 675 feet of 36-inch-diameter sewer pipes for the Parking Lot Alternative. The pressured pipes (force mains) would include approximately 30 feet of 12-inch-diameter pipe for the Tennis Courts Alternative and 625 feet of 18-inch-diameter pipe for the Parking Lot Alternative.

New Water Pipe: A new service pipe would be constructed to provide potable water to the CSO storage tank, so that the tank could be flushed and settled debris removed each time the tank was used to store combined sewage. The water pipe would extend from the intersection of South Juneau Street and Lake Washington Boulevard South to the aboveground features area and then into the facilities vault. The water pipe would be 3 inches in diameter and approximately 420 feet long for the Tennis Courts Alternative and 1,020 feet long for the Parking Lot Alternative.

Modifications to Existing Combined Sewer System: Several modifications would be made to the existing combined sewer system to work with the new CSO storage tank, facilities vault, and sewer pipe, as well as to better utilize the existing CSO storage at CSO Facility 8. The modifications would include changing the control structures that regulate and direct sewer flows, re-configuring sections of the sewer pipes, and replacing or adding maintenance holes. These modifications would all occur within the limits of construction in Seward Park shown on Figure 3-1 and Figure 3-2.

Relocate Existing Seattle Parks Pump Station (Parking Lot Alternative only): Seattle Parks operates a small sewer system in Seward Park to serve the restrooms in the park. As part of this system, there is a sewage pump station toward the northwest corner of Parking Lot 2. The pump station is a belowground structure; however, it has an access hatch that extends approximately two feet above ground and an aboveground electrical cabinet. For the Parking Lot Alternative only, SPU would remove the pump station and replace it with a new pump station located approximately 120 feet farther west, as well as move the Seattle Parks sewer pipes that are located in the footprint of Parking Lot 2. Figure 3-2 shows the locations of the existing and the relocated pump stations.

Seattle Parks Sewage Pump Station

3.1.1.2 Shoreline Treatment

For both the Tennis Courts and Parking Lot Alternatives, the proposed locations for the CSO storage tank are adjacent to the shoreline where there are existing bulkheads (or retaining walls) waterward to control beach erosion from wave action. SPU has options on how the shoreline could be restored after construction of the CSO storage tank. The options are described below and their advantages and disadvantages are shown in Table 3-1. Regardless of the option, construction of the storage tank would require removal of the existing shoreline trees.

Existing bulkhead near Parking Lot 2

The shoreline could be retained in its current state with the existing bulkhead and the area between the CSO storage tank and the lake could be planted with lawn and upland native landscaping.

Alternatively, SPU could remove the existing bulkhead and construct a new, rounded-gravel beach, with native beach and upland landscaping shoreward and large woody debris or other features anchored in the water to provide cover for fish. Between the beach and the new CSO storage tank, SPU could install a new wall made of stone, concrete, or similar material to protect the tank and the tennis courts or parking lot (depending on the alternative) from wave action. The shoreline treatment might be similar to one shown in the shoreline photos below.

The final configuration of the shoreline would be decided during the project's design phase, in coordination with Seattle Parks, the Army Corps of Engineers, the Muckleshoot Tribe, the Washington State Department of Fish and Wildlife (WDFW), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service, and other entities. The analysis in this EIS is based on removing the existing bulkhead because it is a conservative approach related to the impact analysis and the project schedule and budget.

Examples of shoreline treatment with removal of bulkhead

Table 3-1. Shoreline Treatment Options - Advantages and Disadvantages

Option	Advantages	Disadvantages
Leave Existing Bulkhead & Plant Lawn and Native Landscaping	• Reduces construction costs because the bulkhead would not be removed and the shoreline treatment would not be implemented. • Shortens construction time by approximately 6 months. • Does not reduce upland area. • Does not disturb aquatic habitat during construction except at the outfall location.	• Does not improve shoreline protection by replacing older bulkhead with new structure. • Does not provide enhanced aquatic habitat. • Leaves grounded stumps where the Poplar trees would be removed, which may limit opportunities for new vegetation.
Remove Existing Bulkhead & Construct Shoreline Treatment	• May improve shoreline protection by replacing older bulkhead with new structure. • Provides a more natural shoreline that may benefit aquatic wildlife, including ESA-listed species. • Allows for complete removal of the Poplar trees, which would not limit opportunities for new vegetation.	• Increases construction costs by adding bulkhead removal and shoreline treatment in the project. • Lengthens construction time by approximately 6 months. • May reduce upland area to create new, shallower shoreline. • Would disturb existing aquatic habitat during construction.

3.1.1.3 Replacement of the Existing CSO Outfall

The outfall pipe that conveys CSOs from Basin 44 into Lake Washington would be replaced. The existing 24-inch-diameter wood stave pipe is in poor condition and was previously recommended for replacement (SPU 2006). A decision was made to replace the entire CSO outfall pipe as part of the proposed project because a single construction project would be less disruptive to Seward Park than two separate construction projects.

The existing CSO outfall pipe is approximately 780 feet long and begins in a maintenance hole in Parking Lot 1. The outfall discharges approximately 19 feet below the average lake surface elevation. The outfall pipe consists of three sections: 1) buried upland (100 feet from maintenance hole to shoreline); 2) buried nearshore (100 feet from shoreline to 100 feet into the lake); and 3) lying on the bottom or buried offshore (580 feet farther into the lake).

The preliminary design concepts, which are subject to change during design, include the following:

- **Existing Outfall during Construction:** Continue use; both the Tennis Courts and Parking Lot Alternatives would require a temporary bypass of the upper section.
- **Existing Outfall after Construction:** Remove aboveground portions and abandon buried portions in place.
- **Location:** Within 15 feet of and parallel to the existing pipe.
- **Pipe Material:** Ductile iron or high-density polyethylene.
- **Excavation:** From shore and barge, use excavator and clamshell dredge; trenches with and without sheeting; treat dewatering water and discharge to the lake; use silt curtains; and dewater, test, and properly dispose of dredge materials.
- **Installation:** Piece-by-piece underwater or float and submerge the entire pipe.
- **Anchoring:** Combination of burial in engineered bedding and backfill, steel anchors, and concrete weights.
- **Energy Dissipation:** Energy dissipation pad (crushed rock) at the end of the pipe.

3.1.1.4 Transfer of UPARR Grant Protections and Upland Landscaping Enhancements

The NPS' UPARR program previously funded several park improvements within Seward Park by a federal grant. A condition of receiving the funds was that the property remains in recreational use in perpetuity. Three aspects of this project would conflict with that condition: 1) the presence of several permanent, aboveground features required for the proposed project; 2) the project facilities resulting in a dedicated use of the sub-surface area and restricting certain future uses in the surface area; and 3) a construction duration of more than 12 months.

UPARR Replacement Area

The grant program allows for a transfer of the grant protections to another area not already associated with the grant. Therefore, the grant protections would be removed from a small area in Seward Park and transferred to a portion of Lake Washington Boulevard Park north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South (the UPARR replacement area).

The areas in Seward Park that would have the grant protections removed are:

- The 750 square feet of area that would contain several aboveground features (Tennis Courts and Parking Lot Alternatives).
- The 3,100 square feet of area that contains access hatches between the tennis courts (Tennis Courts Alternative).

Figure 3-1 and Figure 3-2 show the locations that would have the grant protections removed as part of the Tennis Courts Alternative and the Parking Lot Alternative, respectively. Figure 3-3 shows the area receiving the transfer of grant protections, which is approximately 21,300 square feet. The replacement area is a passive park area similar to the areas being replaced, but it is much larger and would include upland landscape enhancements to replace invasive vegetation.

The upland landscaping enhancements in the UPARR replacement area would follow the Lake Washington Boulevard Vegetation Management Plan (Moller, Fischer, Silverman, and Andrews, 2010), would include removing invasive species and planting native shrubs and trees, and would maintain access and view opportunities to Lake Washington. The upland landscaping enhancements would occur both within and adjacent to the area where the grant protections would be added. Enhancing the landscaping is acceptable under the grant requirements.

3.1.2 No Action Alternative

Under the No Action Alternative, the CSO storage tank and associated infrastructure would not be built. Additionally, the shoreline treatment next to the CSO storage tank and the transfer of UPARR grant protections would not be implemented. The existing CSO outfall would eventually be replaced because it is in poor condition and was previously recommended for replacement. The outfall replacement is expected to occur between 2015 and 2020, under the SPU Outfall Rehabilitation Program.

Under the No Action Alternative, there would be no reduction in the number or volume of raw sewage discharges and the number of CSO events would continue to exceed the regulatory requirement of a long-term average of no more than one untreated discharge per year, in violation of federal and state law. Penalties for not meeting the regulatory requirement include fines and imprisonment.

3.2 When would construction occur?

For either the Tennis Courts Alternative or the Parking Lot Alternative, the construction is anticipated to take up to approximately two and a half years for the work at Seward Park and four to six weeks for the upland landscaping enhancements at the UPARR replacement area. Construction would begin in mid-2015 and continue through 2017. The City allows construction between 7 a.m. and 7 p.m. on weekdays and between 9 a.m. and 7 p.m. on weekends and holidays, per SMC 25.08.425. SPU would require the contractor to restrict workdays to non-holiday weekdays as much as reasonably possible. Work on holidays or weekends would be decided on a case-by case basis and would be coordinated with Seattle Parks with advance notice to park users. The construction schedule also would be coordinated to minimize impacts to major events such as Seafair.

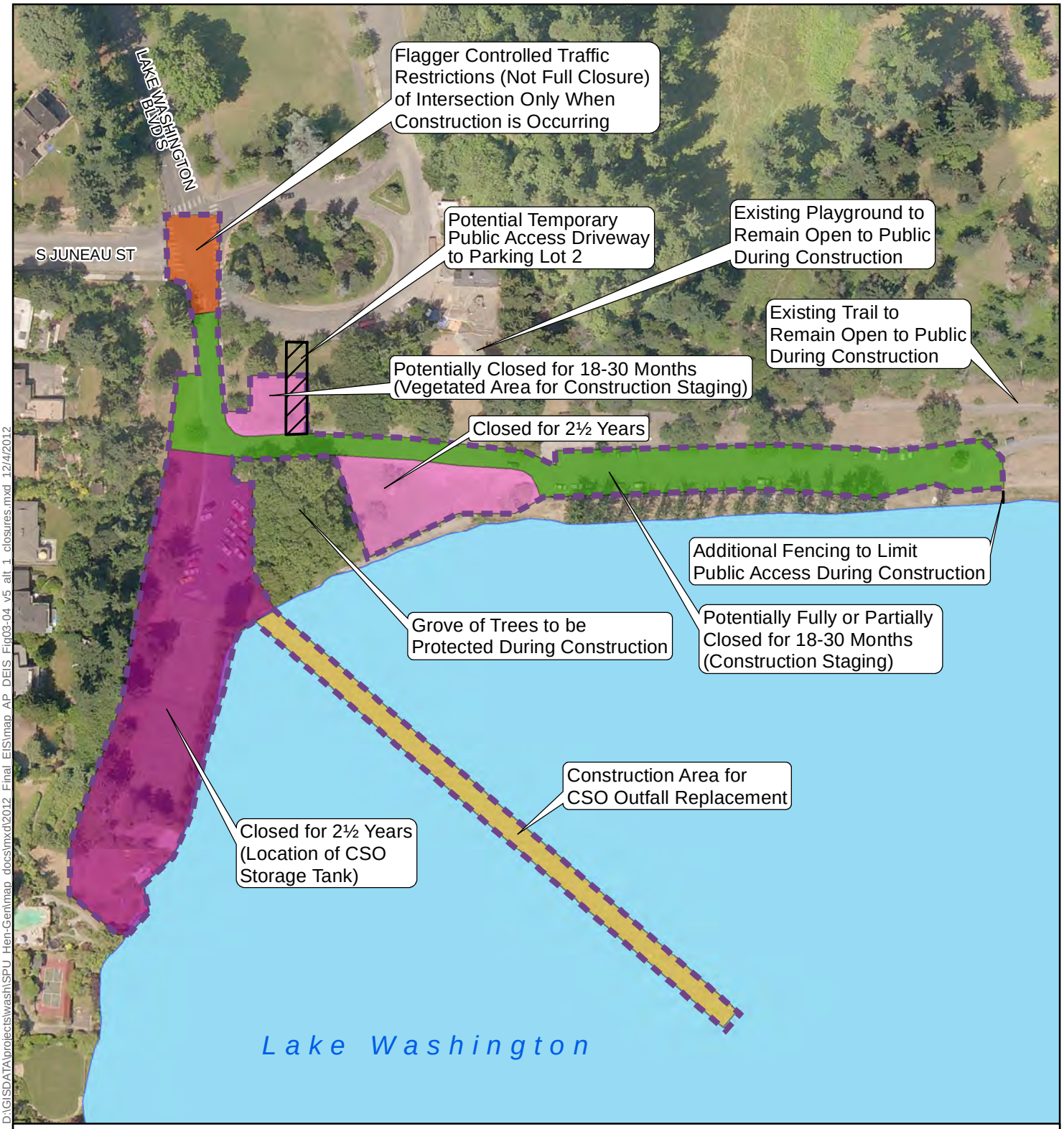
3.3 What public access restrictions would occur during construction?

Portions of Seward Park and the UPARR replacement area would temporarily be closed to the public during construction. The closed areas and durations are somewhat different for the Tennis Courts Alternative and the Parking Lot Alternative, as described below and shown in Figure 3-4 and Figure 3-5.

3.3.1 Areas for Project Components

- **Parking Lot 1 and Tennis Courts (Tennis Courts Alternative):** The new CSO storage tank and facilities vault would be located under Parking Lot 1 and the tennis courts. The public would not have access to these areas for the entire construction period, which is up to approximately two-and-a-half years.

- **Parking Lot 2 (Parking Lot Alternative):** The new CSO storage tank and facilities vault would be located under Parking Lot 2. The public would not have access to this area, as well as the access road to it, for the entire construction period, which is up to approximately two-and-a-half years. Seattle Parks maintenance staff would have access to Parking Lot 2 throughout construction. This would enable park maintenance staff to use the loop road, as well as to access the Seattle Parks pump station.
- **UPARR Replacement Area:** The public would not have access to most of the UPARR replacement area during planting of the upland landscaping enhancements, which would take approximately four to six weeks. Figure 3-9 shows the area that would be fenced during that period. Additionally, contractors may use a small portion of the adjacent parking lot for landscaping materials and equipment staging. Staging would eliminate 6 to 8 spaces in the 33-space parking lot.



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Legend

- Potential Limits of Construction
- Fence Outside Limits of Construction
- Potential Temporary Public Access Driveway to Parking Lot 2
- Closed for 2½ Years (Location of CSO Storage Tank)
- Potentially Closed for 18-30 Months (Vegetated Area for Construction Staging)
- Potentially Fully or Partially Closed for 18-30 Months (Construction Staging)
- Intermediate Closures
- Closed During CSO Outfall Replacement

0 60 120 240 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

TENNIS COURTS ALTERNATIVE
MAIN TEMPORARY CLOSURES IN SEWARD PARK

JANUARY 2013 | **FIGURE 3-4**

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Legend

- Potential Limits of Construction
- Fence Outside Limits of Construction
- Closed for 2½ Years (Location of CSO Storage Tank)
- Potentially Closed for 18-30 Months (Vegetated Area for Construction Staging)
- Potentially Fully or Partially Closed for 18-30 Months (Construction Staging)
- Intermediate Closures
- Closed During CSO Outfall Replacement

0 60 120 240 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PARKING LOT ALTERNATIVE
MAIN TEMPORARY CLOSURES IN SEWARD PARK

JANUARY 2013 | **FIGURE 3-5**

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3.3.2 Areas for Construction Staging and Contractor Parking

An area would be needed for contractor staging and contractor parking. The contractor staging would likely include space for a contractor trailer, a City inspector trailer, minor stockpiling of construction materials, and street-licensed construction equipment (e.g., trucks, trailer, graders, street sweeper, water truck). A certain amount of area would be needed for the entire construction period of up to approximately two-and-a-half years, while a larger area would be needed only for the first year and a half.

A range of options was considered for contractor staging and contractor parking. The options, including their advantages and disadvantages, are included in Table 3-2 and their locations are shown on Figure 3-6.

The contractor, working with the City, would select the actual staging approach and location based on a number of factors, including the ability to obtain permits. Use of any privately owned sites would require negotiation with the property owners. The analysis in this EIS is based on using the following areas for staging because they have the most impacts to the park and therefore provide a conservative approach to the recreation impact analysis and because they are the most desirable locations from a constructability perspective:

- **Seward Park - Parking Lot 1 and Tennis Courts (Parking Lot Alternative only):** From a constructability perspective, it would be ideal to fully close Parking Lot 1 and the tennis courts to the public for one-and-a-half years. After that time, Parking Lot 1 would reopen to the public either fully or on weekends during the last year of construction. A full reopening may be possible depending on the other staging areas used by the contractor and the contractor's staging and sequencing approach to building the tank facilities.
- **Seward Park - Parking Lot 2 (Tennis Courts Alternative only):** From a constructability perspective, it would be ideal to fully close Parking Lot 2 (and the access road to it) to the public for approximately one-and-a-half years. After that time, Parking Lot 2 would reopen to the public either fully or on weekends during the last year of construction. A full reopening would be possible depending on the other staging areas used by the contractor and the contractor's staging and sequencing approach to building the tank facilities. A full reopening is the assumption used in the EIS analysis.

  Another variation on using Parking Lot 2 would be to designate a portion of the parking lot for construction staging and contractor parking and leave the remaining portion as public parking. This variation would require traffic control that defines these two areas and could include barricades, cones, signing, temporary striping, and flaggers.

  Seattle Parks maintenance staff would have access to Parking Lot 2 throughout construction to access the loop road and the Seattle Parks pump station.
- **Seward Park – Two nearby Vegetated Areas:** From a constructability perspective, it would be ideal to close these areas to the public for one-and-a-half years. After that time, the areas could potentially reopen depending on the other staging areas used by the contractor and the contractor's staging and sequencing approach to building the tank facilities.

Table 3-2. Contractor Staging and Contractor Parking Options - Advantages and Disadvantages

Option	Advantages	Disadvantages
Seward Park - Parking Lot 1 and Tennis Courts (only for the Parking Lot Alternative) • Adjacent to construction site. • Approximately 0.7 acre.	• Does not require shuttling equipment, materials, and workers to construction site. • Does not impact vegetated park areas. • Less truck trips through neighborhood (compared to offsite locations).	• Impacts park users (reduces parking, reduces event staging, limits access to certain park areas). • Impacts neighborhood by shifting vehicles to on-street parking.
Seward Park - Parking Lot 2 (only for the Tennis Courts Alternative) • Adjacent to construction site. • Approximately 1.0 acre.	• Does not require shuttling equipment, materials, and workers to construction site. • Does not impact vegetated park areas. • Less truck trips through neighborhood (compared to offsite locations).	• Impacts park users (reduces parking, reduces event staging, limits access to certain park areas). • Impacts neighborhood by shifting vehicles to on-street parking.
Seward Park - Parking Lot 3 • Close to construction site. • Approximately 0.5 acre.	• Does not impact vegetated park areas. • Less truck trips through neighborhood (compared to offsite locations).	• Impacts park users (reduces parking, reduces event staging, limits access to certain park areas). • Impacts neighborhood by shifting vehicles to on-street parking. • Requires shuttling equipment, materials, and workers (short distance) to construction site.
Seward Park - Upper Parking Lots • Close to construction site. • Approximately 0.1 to 0.7 acre.	• Does not impact vegetated park areas. • Less truck trips through neighborhood (compared to offsite locations).	• Impacts park users (reduces parking, reduces event staging, limits access to certain park areas). • Impacts neighborhood by shifting vehicles to on-street parking on weekends and during special events. • Requires shuttling equipment, materials, and workers (short distance) to construction site. • Access is up a steep hill.
Seward Park - Two Nearby Vegetated Areas • Adjacent to construction site. • Approximately 0.1 to 0.4 acre.	• Does not require shuttling equipment, materials, and workers to construction site. • Less truck trips through neighborhood (compared to offsite locations). • Does not impacts neighborhood by shifting vehicles to on-street parking.	• Impacts park users (reduces event staging, limits access to certain park areas). • Impacts vegetated park areas.
Seward Park – North Meadow • Close to construction site. • Approximately 1.0 acre.	• Less truck trips through neighborhood (compared to offsite locations). • Does not impact neighborhood by shifting vehicles to on-street parking.	• Impacts park users (reduces event staging, limits access to certain park areas). • Impacts vegetated park areas. • Requires shuttling equipment, materials, and workers (short distance) to construction site.
Offsite Location #1 - SE Corner of Genesee Park • 1.50 miles from Seward Park. • Approximately 1 acre.	• Does not impact neighborhood by shifting vehicles to on-street parking. • Not a highly developed area of Genesee Park. • Not a highly used location of Genesee Park. • Restoration could be as simple as hydro seeding.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • Impacts park users (limits access to certain park areas). • Impacts vegetated park areas. • More truck trips through neighborhood (compared to Seward Park locations). • Noise could be a concern for residents adjacent to the staging site.
Offsite Location #2 – Vacant lot on MLK Jr. Way South and South Juneau Street • 1.65 miles from Seward Park. • Approximately ¼ acre.	• Does not impact vegetated park areas. • Less impacts to park users (compared to park locations). • Does not impact neighborhood by shifting vehicles to on-street parking. • Appears not to have a critical use. • Partially fenced for equipment security.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • More truck trips through neighborhood (compared to Seward Park locations). • Size may preclude some staging activities. • Access is not ideal since MLK Jr. Way South is a divided roadway.

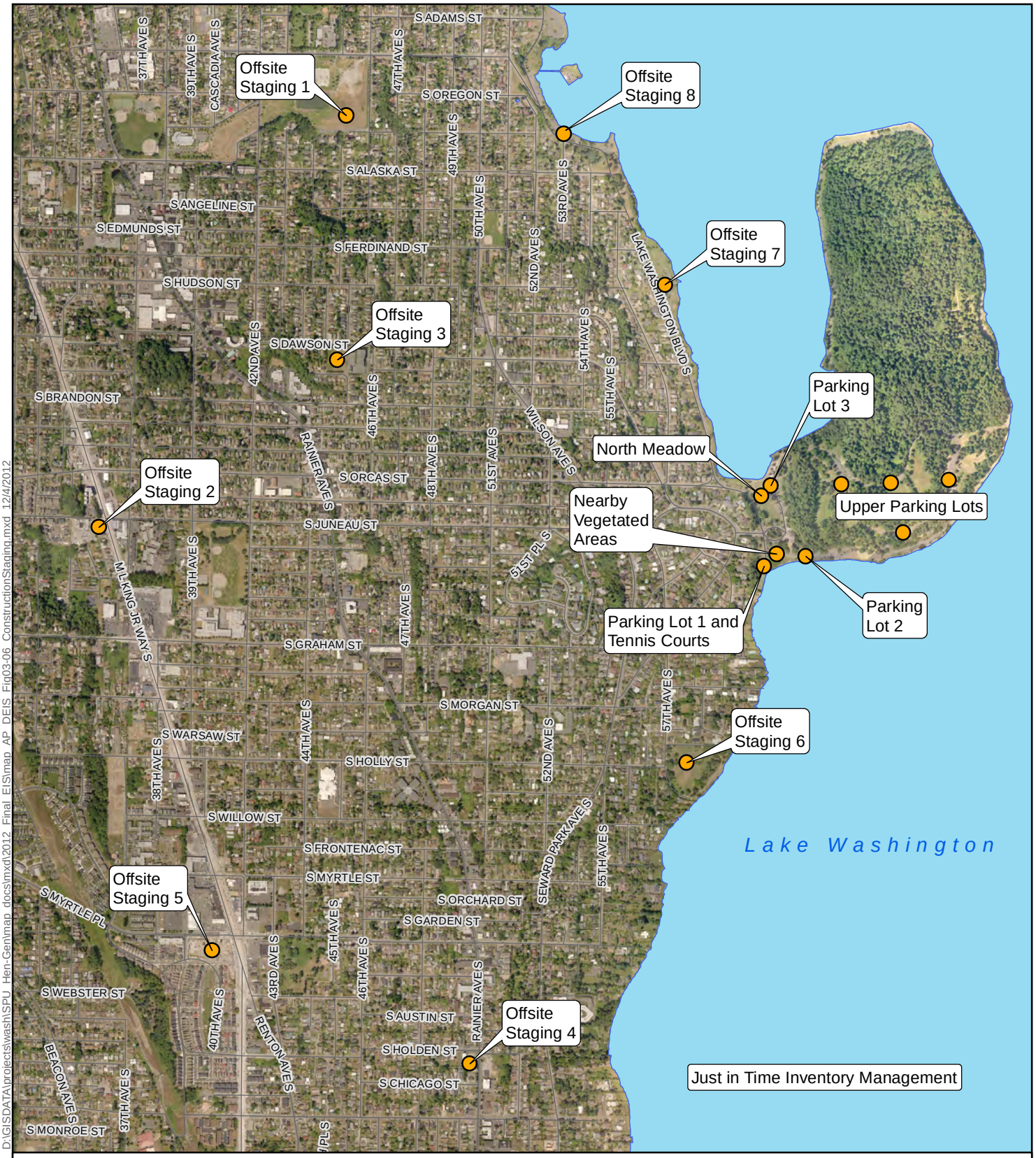
Option	Advantages	Disadvantages
Offsite Location #3 – Unimproved Sports Field at South Dawson Street and 45th Avenue South • 1.17 miles from Seward Park. • Approximately 1.4 acres.	• Does not impact vegetated park areas. • Less impacts to park users (compared to park locations). • Does not impact neighborhood by shifting vehicles to on-street parking. • Appears not to have a critical use. • Easy access to Rainier Avenue South and Seward Park Avenue South. • Restoration could be hydro seeding. • Partially fenced for equipment security.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • More truck trips through neighborhood (compared to Seward Park locations). • Adjacent to Whitworth Elementary School. • Security would be necessary to separate staging area from school kids. • Noise could be a concern for residents adjacent to the staging site.
Offsite Location #4 – Vacant Lot on Rainier Avenue South and South Holden Street • 1.5 miles from Seward Park. • Approximately ½ acre.	• Does not impact vegetated park areas. • Less impacts to park users (compared to park locations). • Does not impact neighborhood by shifting vehicles to on-street parking. • Appears not to have a critical use. • Easy access to Rainier Avenue South. • Noise not an issue since adjacent to a busy street. • Partially fenced for equipment security.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • More truck trips through neighborhood (compared to Seward Park locations). • Site would need good security (highly visible site). • Metro bus stop in front of site.
Offsite Location #5 – Abandoned Construction Site at MLK Jr. Way South and South Othello Street • 1.75 miles from Seward Park. • Approximately 2.8 acres.	• Does not impact vegetated park areas. • Less impacts to park users (compared to park locations). • Does not impact neighborhood by shifting vehicles to on-street parking. • Appears not to have a current critical use. • Easy access to South Othello Street and MLK Jr. Way South. • Noise not an issue since adjacent to a busy street. • Securely fenced for equipment security.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • More truck trips through neighborhood (compared to Seward Park locations). • Site would need good security (highly visible site). • Site construction could resume prior to CSO tank construction.
Offsite Location #6 – Martha Washington Park along South Warsaw Street • 0.6 miles from Seward Park. • Approximately ½ acre.	• Does not impact neighborhood by shifting vehicles to on-street parking. • Currently planned for staging for the Basin 45 CSO Reduction Project. • Central location to provide staging for both (Basin 44 & 45) project sites.	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • Impacts park users (limits access to certain park areas). • Impacts vegetated park areas. • More truck trips through neighborhood (compared to Seward Park locations).
Offsite Location #7 - Parking Lot on Lake Washington Boulevard South near South Ferdinand Street • 0.6 miles from Seward Park. • Approximately 0.5 acre.	• Does not impact vegetated park areas. • Less impacts to Seward Park users (compared to Seward Park locations).	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • Impacts park users (reduces parking, limits access to certain park areas). Impacts neighborhood by shifting vehicles to on-street parking. • More truck trips through neighborhood (compared to Seward Park locations).
Offsite Location #8 - Parking Lot at Lake Washington Boulevard South and 53rd Avenue South • 1.0 miles from Seward Park. • Approximately 0.5 acre.	• Does not impact vegetated park areas. • Less impacts to Seward Park users (compared to Seward Park locations).	• Distance from construction site requires more precise planning/scheduling. • Requires shuttling equipment, materials, and workers to construction site. • Impacts park users (reduces parking, limits access to certain park areas). • Impacts neighborhood by shifting vehicles to on-street parking. • More truck trips through neighborhood (compared to Seward Park locations).
Just in Time Inventory Management	• Reduces the size of staging area needed at other identified locations.	• Does not provide a complete solution to staging needs.

3.3.3 Areas Used for Access to the Construction Site

- **Tennis Courts and Parking Lot Alternatives – Seward Park Circular Entrance Road:** The west side of the Seward Park circular entrance road, at the intersection of Lake Washington Boulevard South and South Juneau Street, would have intermittent restricted access. The area would have traffic control that defines pedestrian routes, public access to parking, and construction access to the construction site that could include barricades, cones, signing, temporary striping, and flaggers. The flaggers would direct the public through the construction areas and keep construction vehicles within the construction areas. Construction trucks would enter or exit the park through the construction access. This area also would have traffic control and restrictions during installation of the new water line located under the access road, which is expected to take approximately one week.
- **Tennis Courts Alternative - New Temporary Public Access Driveway to Parking Lot 2:** If Parking Lot 2 were not fully closed to the public, truck access to Parking Lot 1 for construction work would be more complicated. One solution would be to use traffic control to allow trucks to perform a three-point turn between the access road to Parking Lot 2 and Parking Lot 1. Another potential solution would be for construction trucks to access Parking Lot 1 via the existing road into Parking Lot 1 and to construct a new temporary driveway for public vehicles to access Parking Lot 2. This potential public access driveway could be located between the southern end of the Seward Park circular entrance road and the existing access road to Parking Lot 2.

3.4 What would the proposed project area look like after construction?

Upon completion of construction, the areas within the limits of construction would be restored as described below. Figure 3-7, Figure 3-8, and Figure 3-9 provide conceptual drawings and several conceptual depictions of the areas are provided as well at the end of this section.



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Legend

- Potential Staging Location

0 500 1,000 2,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

CONSTRUCTION STAGING OPTIONS

JANUARY 2013 | **FIGURE 3-6**

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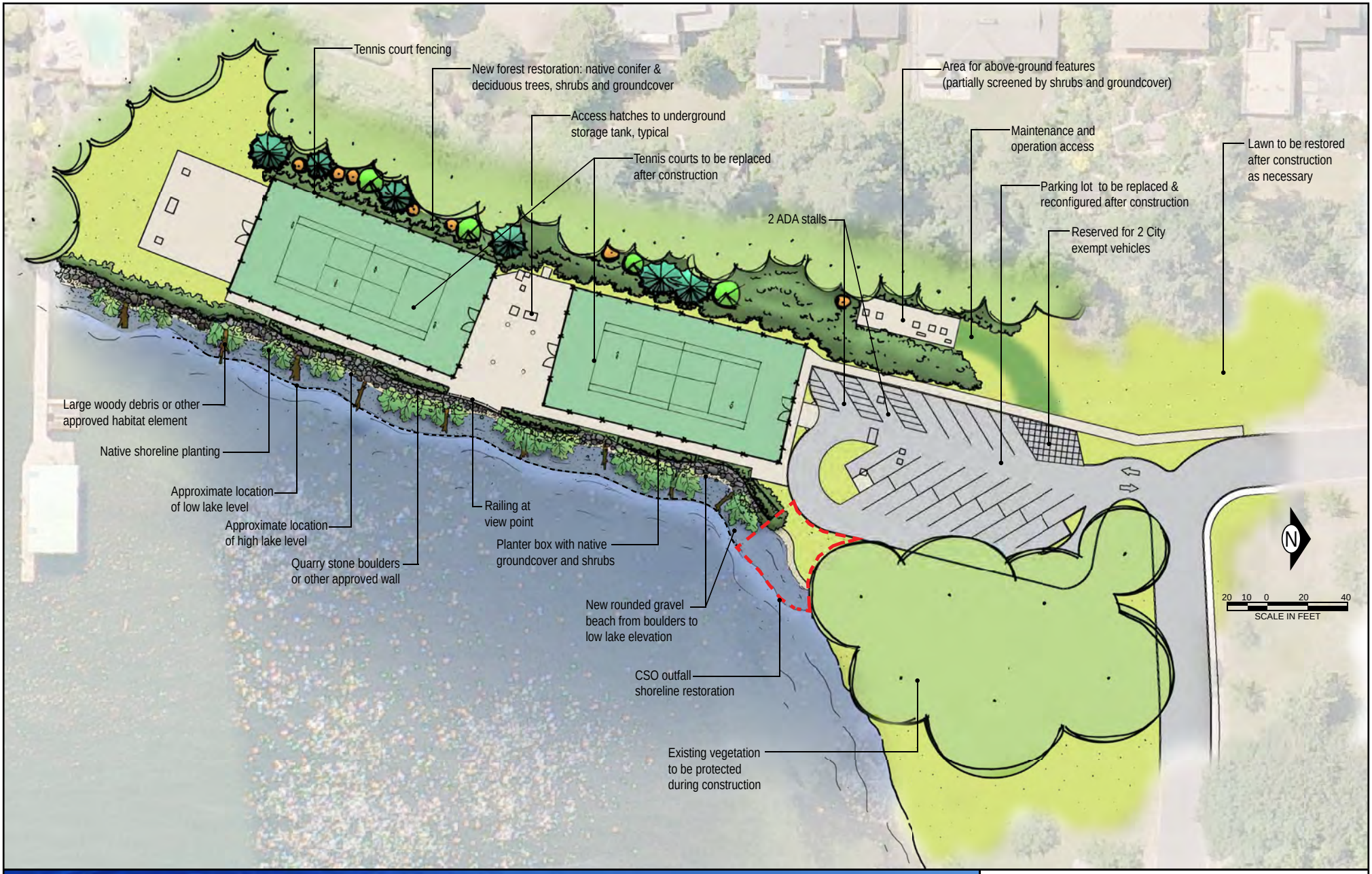

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HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

TENNIS COURTS ALTERNATIVE
POST CONSTRUCTION CONCEPTUAL PLAN

JANUARY 2013 | **FIGURE 3-7**

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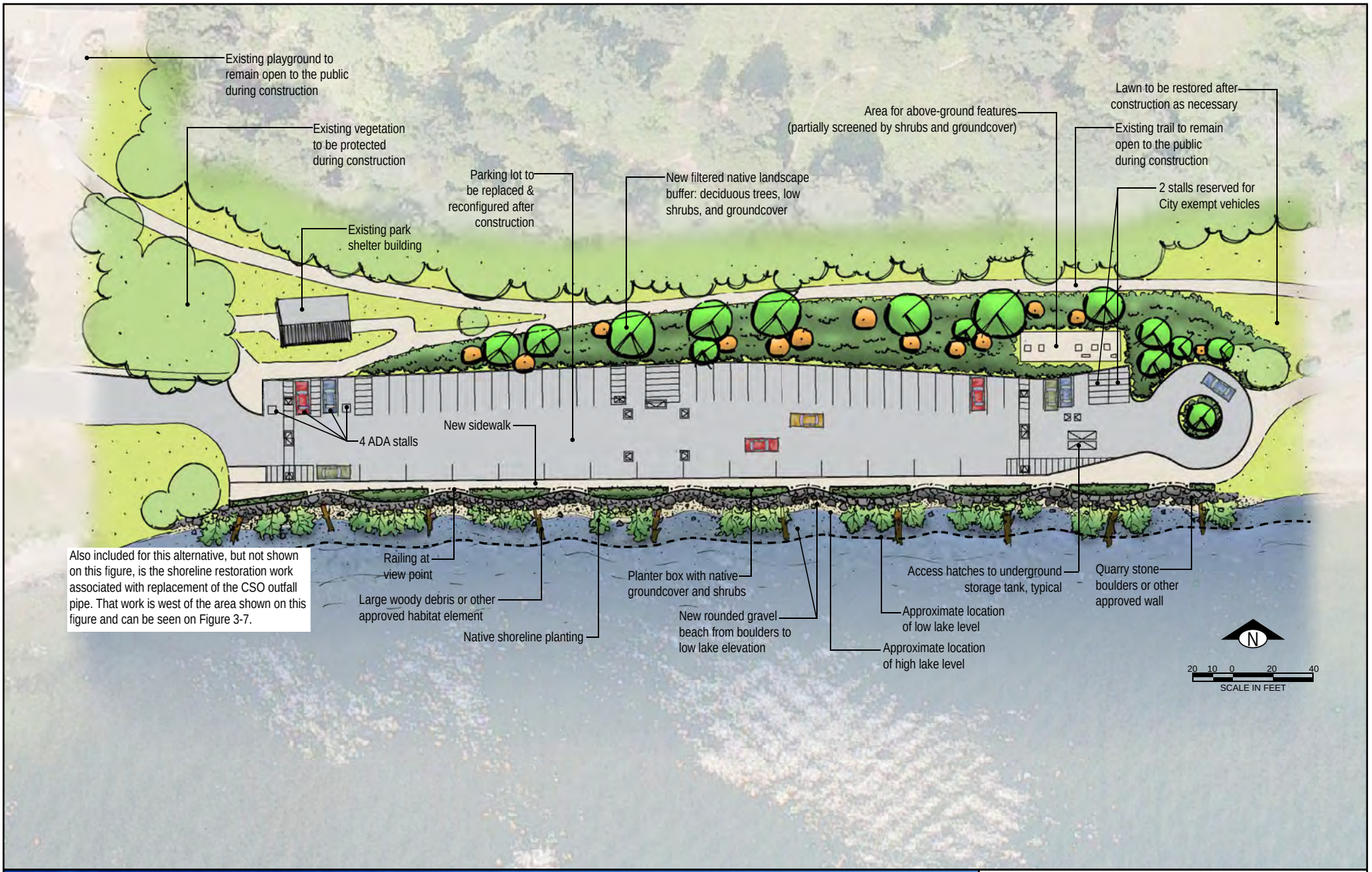

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HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PARKING LOT ALTERNATIVE
POST CONSTRUCTION CONCEPTUAL PLAN

JANUARY 2013 | **FIGURE 3-8**

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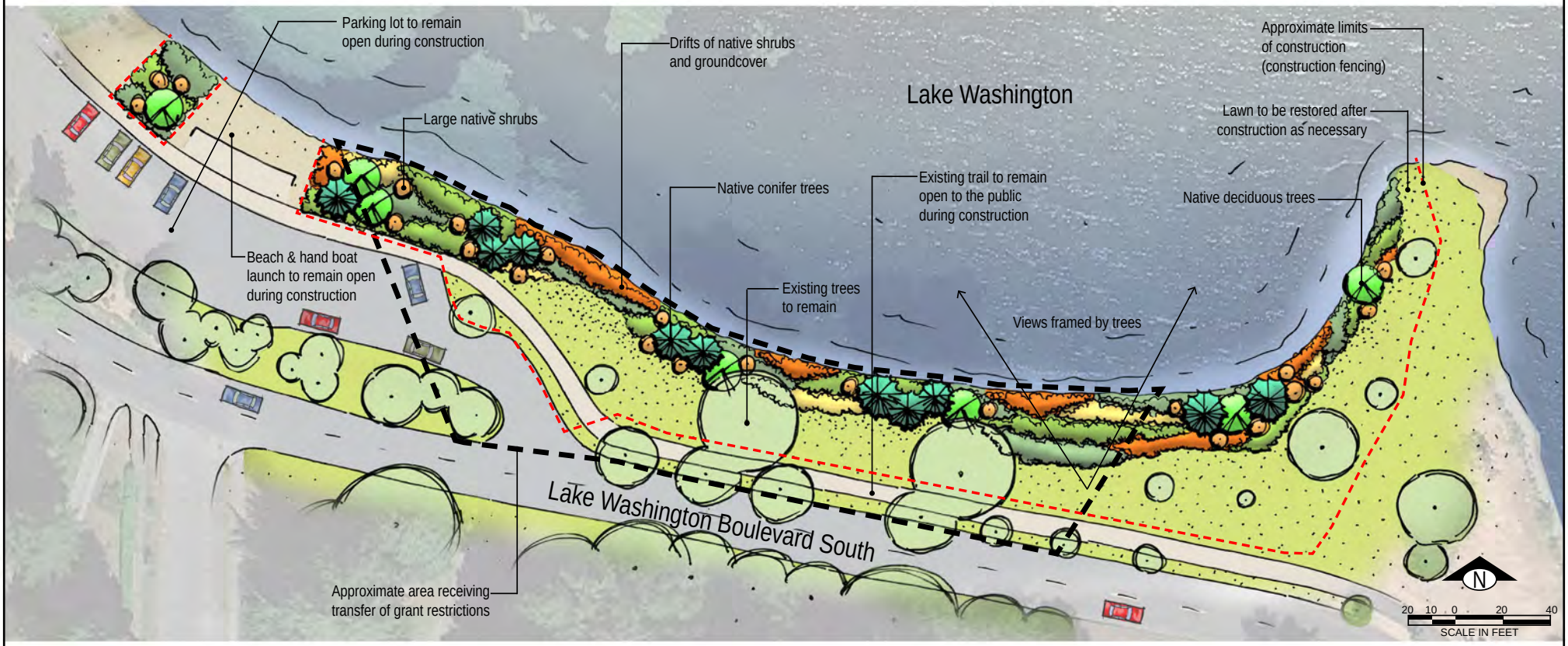

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

UPARR REPLACEMENT AREA
UPLAND LANDSCAPING ENHANCEMENT DETAILS

JANUARY 2013 | **FIGURE 3-9**

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Tennis Courts Alternative – Conceptual Depiction of CSO Storage Tank Location

Parking Lot Alternative – Conceptual Depiction of CSO Storage Tank Location

Parking Lot 1: Table 3-3 shows the number of current and post-construction parking spaces. The parking lot currently has 28 parking spaces, including one accessible parking space (as defined under the Americans with Disabilities Act).

- **Tennis Courts Alternative:** Parking Lot 1 would be completely rebuilt. The new parking lot would have a different configuration to allow for access to the facilities vault though ground level hatches. The new parking lot would have 28 parking spaces, including two accessible parking spaces and two spaces for exempt City vehicles ("D license plates") used by SPU maintenance, police, and Seattle Parks personnel. This reconfiguration would result in a net loss of two public spaces (loss of three regular spaces and the gain of one accessible parking space).
- **Parking Lot Alternative:** Parking Lot 1, which would be used for staging, would be repaved and restriped. The restriping would include adding one accessible parking space. The reconfigured parking lot would have 27 parking spaces, including two accessible parking spaces. This reconfiguration would result in a net loss of one public space (loss of two regular spaces and the gain of one accessible parking space).

Table 3-3. Parking Lot 1 Current and Post-construction Parking Spaces

Category	Tennis Courts Alternative (Used for CSO Storage Tank)			Parking Lot Alternative (Used for Staging)		
	Current	Post-Construction	Change	Current	Post-Construction	Change
Public - Regular	27	24	-3	27	25	-2
Public – ADA-accessible[1]	1	2	+1	1	2	+1
City Vehicles	0	2	+2	0	0	0
Total	28	28	0	28	27	-1

[1] Per the Americans with Disabilities Act, accessible parking spaces have at least a 60-inch-wide access aisle located adjacent to the designated parking space. The access aisle is just wide enough to permit a person using a wheelchair to enter or exit the car.

Parking Lot 2: Table 3-4 shows the number of current and post-construction parking spaces. The parking lot currently has 62 parking spaces, including four accessible parking spaces.

- **Tennis Courts Alternative:** Parking Lot 2, which would be used for staging, would be repaved and restriped to restore it to existing conditions, with no change to the number of parking spaces.
- **Parking Lot Alternative:** Parking Lot 2 would be completely rebuilt. The new parking lot would have a different configuration to allow for access to the facilities vault though ground level hatches. The new parking lot would have 60 parking spaces, including four accessible parking spaces and two spaces for exempt City vehicles. This reconfiguration would result in a net loss of four public spaces (loss of four regular spaces and no change in the number of accessible parking spaces).

Table 3-4. Parking Lot 2 Current and Post-construction Parking Spaces

Category	Tennis Courts Alternative (Used for Staging)			Parking Lot Alternative (Used for CSO Storage Tank)		
	Current	Post-Construction	Change	Current	Post-Construction	Change
Public - Regular	58	58	0	58	54	-4
Public - Accessible[1]	4	4	0	4	4	0
City Vehicles	0	0	0	0	2	+2
Total	62	62	0	62	60	-2

[1] Per the Americans with Disabilities Act, accessible parking spaces have at least a 60-inch-wide access aisle located adjacent to the designated parking space. The access aisle is just wide enough to permit a person using a wheelchair to enter or exit the car.

Tennis Courts: For both the Tennis Courts Alternative and the Parking Lot Alternative, both tennis courts would be completely rebuilt, unless Seattle Parks personnel decide during the design stage that they would prefer a different use (e.g., basketball courts, picnic area). For the purpose of this EIS, replacement of the tennis courts is assumed.

Upland Landscaping: Areas within the limits of construction that are currently vegetated and would be disturbed during construction would be re-landscaped. This includes areas near the tennis courts, Parking Lot 1, Parking Lot 2, and the land disturbed to replace the CSO outfall. The landscaping plan would adhere to land use codes, would follow the Seward Park Vegetation Management Plan (International Forestry Consultants, Inc., 2005), and would be developed in consultation with Seattle Parks.

Aboveground Features Area: Vegetative screening likely would be added to the area surrounding the new aboveground features to improve aesthetics and discourage vandalism. Conceptual renderings of this area post construction both with and without the vegetative screening are shown below for each alternative. Note that the renderings are conceptual in nature and the exact landscaping plan would be developed, in consultation with Seattle Parks, during final design. The renderings are intended to portray screening using shrubs and groundcover; in the Tennis Courts Alternative, the large tree directly behind the area would be removed due to construction.

UPARR Replacement Area: Figure 3-9 shows a conceptual plan of the upland landscaping enhancements which follows the recommendations included in the Lake Washington Boulevard Vegetation Management Plan (Moller, Fischer, Silverman, & Andrews, 2010).

Tennis Courts Alternative - Conceptual Depiction of Aboveground Features before Screening

Tennis Courts Alternative - Conceptual Depiction of Aboveground Features after Screening

Parking Lot Alternative - Conceptual Depiction of Aboveground Features before Screening

Parking Lot Alternative - Conceptual Depiction of Aboveground Features after Screening

3.5 How would the CSO storage tank work?

Under normal conditions, the sewer pipes in Basin 44 convey combined sewer flows into the adjacent downstream SPU combined sewer system, then into King County's sewer system, and eventually to either King County's West Point or South treatment plants for treatment and discharge into Puget Sound.

During wet weather conditions, combined sewer flows would be directed to the existing CSO storage pipe at CSO Facility 8 until it is full and then to the new CSO storage tank. Once there is capacity in the downstream combined sewer system, the flows would be returned to the main combined sewer system. For the Tennis Courts Alternative, the new CSO storage tank would be emptied by pumping combined sewer flows directly back to the main combined sewer system. For the Parking Lot Alternative, the flows would be pumped to the existing CSO storage pipe and then flow by gravity to the main combined sewer system. If completely full, the new CSO storage tank would take approximately two-and-a-half days to fully drain for the Tennis Courts Alternative and three days to fully drain for the Parking Lot Alternative. After the new CSO storage tank is emptied, the tank would be flushed with potable water to remove settled debris. The flushing water would be conveyed to the main combined sewer system.

If the combined sewer flows exceed the capacity of both the existing and proposed storage, the flows would be discharged into Lake Washington via the Basin 44 CSO outfall pipe. However, this is expected to occur no more than once per year on a long-term average.

3.6 What type of maintenance would be expected?

The CSO storage tank and associated infrastructure would require routine maintenance to operate properly and reach their design life of 100 years. Table 3-5 provides a summary of the routine maintenance activities, their frequency, the type of equipment, the number of staff involved, and the impact to Seward Park. The frequency of the maintenance activities would range from quarterly to approximately once every 25 years. Most maintenance activities would impact park users temporarily, requiring the closure of Parking Lot 1 and the tennis courts (for the Tennis Courts Alternative) or Parking Lot 2 (for the Parking Lot Alternative) for a few hours. Routine maintenance likely would occur during normal weekday business hours, would be posted in advance to notify park users, and would be scheduled to avoid major events. The system would be designed to operate automatically during a CSO event and SPU staff would not be required to visit the facility during or after each CSO event. However, in the first year or so of use, SPU staff may elect to visit the site periodically during or after a CSO event, which would have similar impacts as the quarterly activities in Table 3-5. Emergency maintenance activities likely would require closing Parking Lot 1 and the tennis courts (for the Tennis Courts Alternative) or Parking Lot 2 (for the Parking Lot Alternative) for a few hours depending on the nature of the emergency.

For the shoreline treatment in Seward Park, maintenance of the new vegetation would be required. For CSO outfall replacement components in Seward Park and the upland landscaping enhancements in the UPARR replacement area, no additional maintenance would be required beyond the existing maintenance performed by SPU and Seattle Parks.

Table 3-5. Routine Maintenance Activities for CSO Storage Tank and Associated Infrastructure

Frequency	Typical Activities	Equipment and Staff	Impacted Area
Quarterly	Inspect and maintain water flushing tipping buckets and fill ports.[1]	Service Truck and 2 Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 2 to 4 hours due to open hatches in driving and walking areas.
	Exercise valves, motor-operated gate, and pumps in facilities vault.[1]		
	Inspect debris build-up on walls and weirs and clean as necessary.[1]		
	Inspect and maintain indicator lights, displays, pressure gauges, and monitoring equipment.		
Annually	Inspect mechanical and electrical equipment for wear and corrosion.	Service Truck and 2 Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 2 to 4 hours due to open hatches in driving and walking areas. Activities for the annual maintenance could be performed in conjunction with quarterly inspection activities (requires an additional service truck and 2 staff).
	Inspect and maintain carbon filter bed, HVAC supply/exhaust, and odor control fans.		
	Remove and replace fouled odor control system filters.		
	Remove, clean, and replace basin drain pumps, as needed.[1]		
	Test and certify backflow prevention device.		
Infrequent (every 5 to 25 years)	Replace Carbon Media.	Service Truck, Vactor™ Truck and Four Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 4 to 6 hours due to open hatches in driving and walking areas.
	Remove and replace tank drain pumps (offsite servicing).[1]	Service Truck and 2 Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 2 to 4 hours due to open hatches in driving and walking areas.
	Perform sewer cleaning.	Vactor Truck and 2 Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 2 to 4 hours.
Very Infrequent (every 25+ years)	Replace mechanical equipment (valves, pumps, piping).[1]	Service Truck and 3 Staff	Closure of Parking Lot 1 and tennis courts (Tennis Courts Alternative) or Parking Lot 2 (Parking Lot Alternative) for 6 to 8 hours; however, closure duration would be dependent on the equipment being removed and replaced.
	Remove and replace tipping buckets, as needed.[1]	Crane, Semi-Truck, Service Van, 3 to 10 staff	Closure of both Parking Lot 1 and the tennis courts (for the Tennis Courts Alternative) or Parking Lot 2 (for the Parking Lot Alternative) for 1 to 2 days.
	Inspect structure of storage tank and facilities vault.[1]	2 Service Trucks and 6 to 10 Staff	Closure of both Parking Lot 1 and the tennis courts (for the Tennis Courts Alternative) or Parking Lot 2 (for the Parking Lot Alternative) for 1 to 2 days.

[1]For the Tennis Courts Alternative, this maintenance activity would require driving on the surface of the tennis court(s), although the maintenance truck would be routed to the apron outside of the doubles sideline to the extent feasible.

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4 Recreation

4.1 What recreational resources exist in the area?

The primary recreational resources in the project area are Seward Park and Lake Washington Boulevard Park (see Figure 4-1).

4.1.1 Seward Park

Seward Park is approximately 278 acres in size, and includes a variety of opportunities for passive and active recreation. Figure 4-2 shows the project areas for both the Tennis Courts Alternative and the Parking Lot Alternative.

Seward Park South Shoreline

Seward Park was designed by the Olmsted Brothers, which was the premier landscape architecture firm of the era. The Olmsted Brothers developed a citywide parks plan in 1903 that envisioned a series of parks of varying sizes connected by pleasure drives and parkways to form an "emerald necklace" that would wrap around the city limits (Parks 2011d). The Olmsted Brothers subsequently created a preliminary plan for Seward Park in 1912 that included 4.2 miles of drives, 12 miles of walking paths, boating access, basketball and tennis courts, swimming, croquet, playground, dancing pavilions, summer dwellings, and maintenance facilities. The Olmsteds' plan incorporated these activities and their supporting infrastructure into the natural setting of Seward Park, retaining 95 percent of the forest. The intent of the Olmsted plan and that of the Seattle Board of Park Commissioners from that time was to maintain the park in its natural condition. See Appendix C for more information regarding the Olmsted design principles.

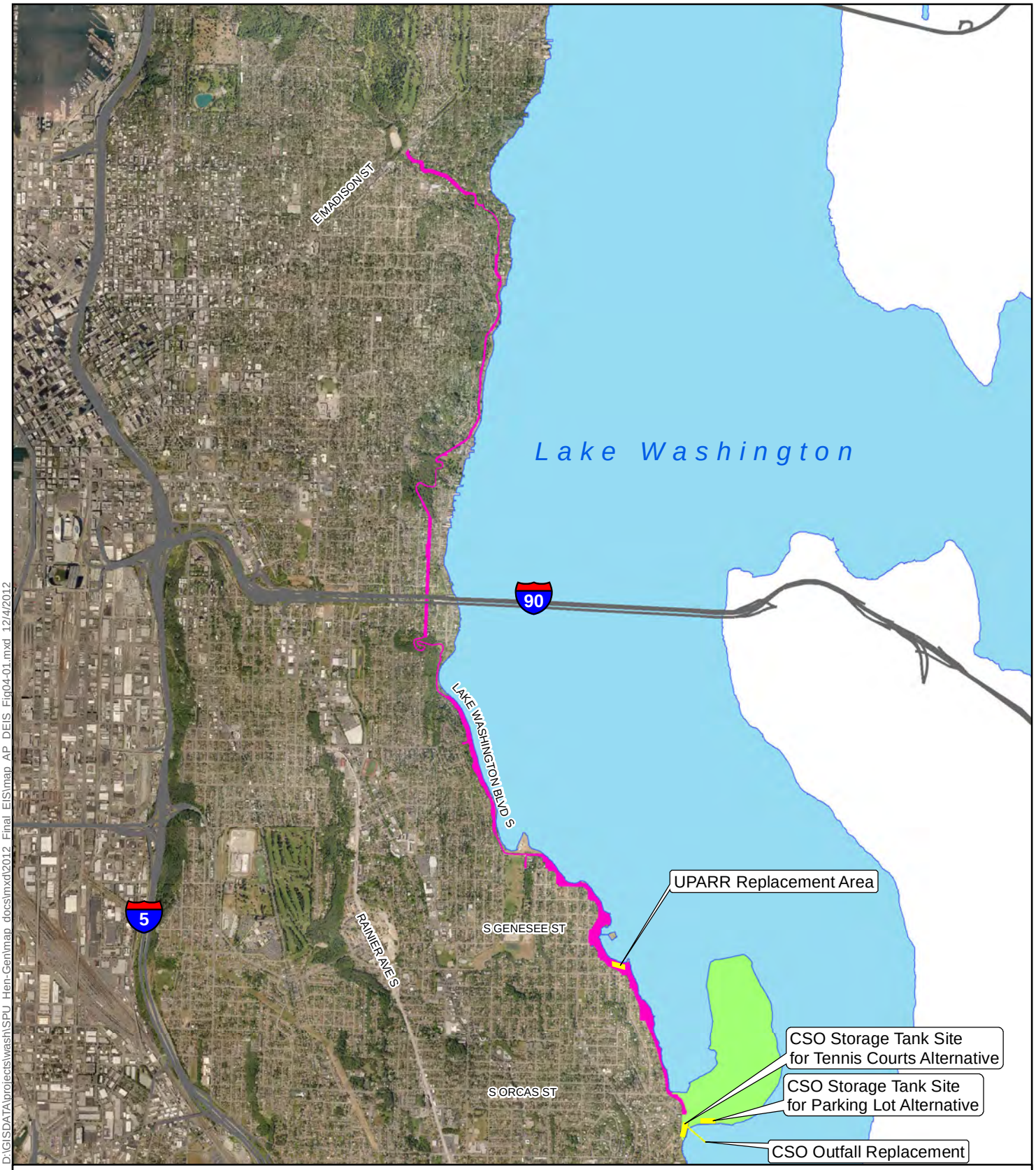
Bird watching, one of the many recreational activities in Seward Park

Recreational Activities and Features

Seward Park offers a variety of recreational activities and features. The Olmsted vision for Seward Park focused on passive means of experiencing the park. Although the plan included active recreational opportunities on the perimeter, the majority of the park was planned to be untouched to allow the park to "unconsciously influence" park users (Beveridge 2000). Many people currently perceive the park as passive and use it for many passive activities. While development since the original plan has increased the opportunities for active recreation, the park remains a destination for quiet strolls and passive gatherings. Current opportunities for passive recreation include the following:

- Experiencing the native vegetation, water, and terrain, including the forest with trees that are over 200 years old, wetlands, rock outcroppings, native plant garden, and the shoreline.
- Observing beautiful views that are often framed by trees and considered one of the best attributes of Seward Park. Many benches along the trails are provided for resting to observe views.
- Walking the several miles of hiking trails through the forest and the 2.4-mile-long multi-use trail along the shoreline.
- Orienteering throughout the park.
- Picnicking in meadows that contain minimal development.
- Sunbathing in open meadows or on the beaches.
- Wildlife viewing along the trails, shoreline, and wooded areas. This includes viewing nests of eagles and other birds.

Seward Park is primarily used by visitors who park and casually recreate (e.g., bird watching, enjoyment of scenic views, picnicking). There are picnic shelters along the Lake Washington shoreline that are frequently used and are in close proximity to Parking Lot 2. Other activities include sunbathing at the cove grass area between Parking Lots 1 and 2 and tennis during the warmer months. In December, the Seattle Christmas Ship arrives at the cove area and anchors offshore. People along the shoreline prepare a bonfire and gather while carols are amplified from the ship.



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Legend

- Lake Washington Blvd Park (to Madison St.)
- Seward Park
- Potential Project Areas

0 2,000 4,000 8,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PROPOSED ALTERNATIVES WITHIN SEWARD AND LAKE WASHINGTON BOULEVARD PARKS

JANUARY 2013 | **FIGURE 4-1**

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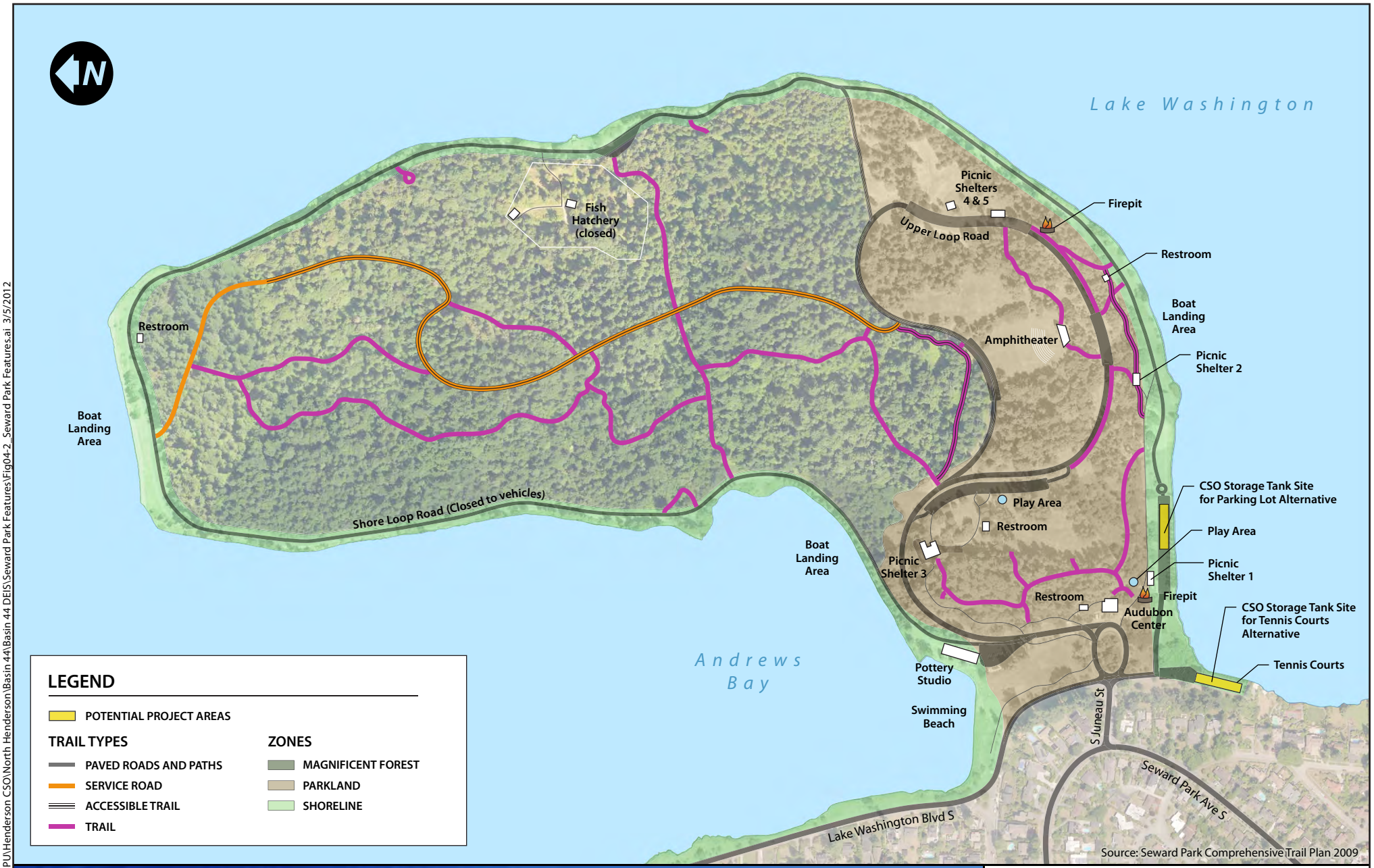

Source: Seward Park Comprehensive Trail Plan 2009

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Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

SEWARD PARK FEATURES

JANUARY 2013 | **FIGURE 4-2**

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The original Olmsted plan incorporated opportunities for active recreation, but they were not the focus of Seward Park. Rather, they served as a backdrop to the presence of the forest and lake. Current opportunities for active recreation include the following:

2.4-Mile Shore Loop Road

Audubon Center

- Walking along the shoreline trail and wooded paths
- Using the children's play area
- Playing tennis
- Swimming activities at the beaches, docks, and diving boards
- Using the designated picnic shelters
- Landing/launching boats
- Anchoring boats in Andrews Bay
- Visiting the clay studio
- Using the Seward Park Environmental and Audubon Center
- Attending plays and other performances in the amphitheater
- Fishing along the shoreline and docks
- Conducting sporting activities in open areas including soccer, baseball, kickball, and Frisbee
- Attending activities in the event staging and exposition area

As shown in Figure 4-2, Seward Park has many trails and features. Some are paved roads and paths, others are dirt, and others include segments of ADA-accessible trails.

Park Buildings

Seward Park has several buildings used for recreational activities, including a clay studio, an Audubon Center for environmental education, and an amphitheater. In addition, the park has picnic shelters and restrooms (see Figure 4-2).

Access

Seward Park has one vehicle entrance, which is in the southwest part of the park where Lake Washington Boulevard South and South Juneau Street intersect with Seward Park Road. Chapter 8 Transportation describes the major and minor arterial streets in the project vicinity, as

well as current and projected traffic conditions, and addresses potential impacts to park access and traffic circulation near Seward Park and Lake Washington Boulevard Park.

Entrance to Parking Lots 1 and 2

Parking

Seward Park contains seven public parking lots (see Figure 4-3). The parking lot at the southern end of Lake Washington Boulevard South (Parking Lot 1 on Figure 4-3), as well as the adjacent tennis courts, is the location of the underground storage tank for the Tennis Courts Alternative. It has 28 spaces including one accessible parking space. The parking lot along Seward Park Road on the southern side of the park (Parking Lot 2 on Figure 4-3) is the location of the underground storage tank for the Parking Lot Alternative. It has 62 spaces including four accessible parking spaces (Figure 4-3). The other five parking lots are within 600 to 1,800 feet of the alternative sites and provide an additional 261 parking spaces.

Figure 4-4 shows public on-street parking within a half-mile radius of the project area. On-street parking is located along several public roads, including Seward Park Avenue South and Wilson Avenue South. On-street public parking often is used to accommodate special events, programs at the Audubon Center and the clay studio, and on heavy use days to access the lower shoreline areas.

The majority of special events at Seward Park rely on the parking lots, on-street parking, shuttle service to and from the park, or some combination of these options. An example of shuttle service is the “Walk for Rice at Seward Park,” where organizers offered a special shuttle service from offsite to Seward Park.

Parking Lot 1

Parking Lot 2

Legend

- Open During Construction
- Closed During Construction

0 200 400 800 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

SEWARD PARK PARKING LOTS

JANUARY 2013 | **FIGURE 4-3**

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Legend

- Demarcated Parking Area
- Non-Demarcated Wide Parking
- Non-Demarcated Narrow Parking
- Potential Project Areas

0 200 400 800 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

ON-STREET PARKING NEAR SEWARD PARK

JANUARY 2013

FIGURE 4-4

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Special Events

Seward Park annually hosts over 70 special events attended by approximately 400,000 visitors (Parks 2010). The dates and times and the approximate attendance levels of typical annual events at Seward Park are contained in Appendix C.

4.1.2 Lake Washington Boulevard Park and UPARR Replacement Area

Lake Washington Boulevard Park is a 117-acre area located along the shoreline of Lake Washington.

Current opportunities for recreation in the park include the following:

- Biking, jogging, walking, and running on the park trail
- Driving the boulevard as a pleasure drive
- Picnicking on lawn areas
- Wildlife viewing, primarily waterfowl and shoreline birds
- Boating and kayaking
- Fishing
- Active waterfront and beach recreation, such as swimming

Many of the Seward Park annual events listed in Appendix C also make use of Lake Washington Boulevard Park. In addition, other events that focus primarily on Lake Washington Boulevard Park include:

- Cherry Blossom Festival, late March to mid-April
- Celebrate Summer Streets with Bicycle Sundays, every Sunday between 10:00 a.m. and 6:00 p.m. from May through September

4.2 How would the proposed project affect recreational resources?

The impacts to recreation due to each alternative are described below. The impacts would be similar for both alternatives; however, park facilities such as the playground are closer to the Parking Lot Alternative than the Tennis Courts Alternative. Therefore, during construction, park users and facilities would be more impacted by construction noise, dust, and traffic under the Parking Lot Alternative (compared to the Tennis Courts Alternative).

4.2.1 Direct Impacts – Tennis Courts Alternative

There are multiple impacts to recreation during and following construction, as discussed below.

4.2.1.1 Seward Park

Park Use

- ***Active and Passive Recreation.*** Recreational activities would be suspended during the 30-month construction period within the fenced construction area to ensure the safety of park users. The park is popular for walking, running, and cycling. Park users would be able to walk the perimeter shoreline trail and the many other forest paths during construction. The pedestrian path north of Parking Lot 2 would remain open to provide a continuous perimeter route around the park. ADA access would be available through the playground.

  Park users would be aware of the construction, in most cases, due to the noise and dust, and notices provided by SPU. Park users may disperse to areas of the park where impacts are not as noticeable, or they may choose to visit another park during construction.

  These impacts to active and passive recreation are not considered significant because the majority of the park (more than 98 percent) would be available for the public to use during construction, and recreation activities could be conducted elsewhere in Seward Park or at other nearby parks. Parking limitations may impact active and passive recreation (as well as the other topics in this Park Use subsection); see the impacts discussion under the Parking subsection.

- ***Tennis Courts.*** Both tennis courts would be demolished and closed during the 30-month construction period because the CSO tank would be located directly underneath the courts. The courts would be reconstructed and located in a slightly more southerly location after the CSO tank and related improvements were completed (see Figure 3-7). Seattle Parks does not track statistics on usage of the tennis courts. However, Seattle Parks staff estimates that approximately 2,200 people play tennis at the Seward Park courts each year. This usage varies depending on the season and day of the week with more usage in the summer and on weekends. The estimated number of 2,200 people includes repeat users and does not represent 2,200 unique individuals. (Seattle Parks 2011a personal communication.) During construction, park users would need to travel to one of eight other public tennis facilities (Section 4.2.3.1 lists locations) to play tennis.

Playing Tennis

The row of poplar trees next to the tennis courts would be removed as part of the construction of the CSO storage tank. Removal of the trees would provide expansive views of south Lake Washington and Mount Rainier. Some tennis players may notice a lack of shade while playing tennis due to the removal of shade-providing trees. Additional vegetation improvements to the slope and area to the south of the tennis courts would help restore the native forest with native trees, shrubs, and groundcover. Replacement of vegetation would be in accordance with the Seward Park Vegetation Management Plan. The improvements to the tennis court area would help reconnect the area south of the tennis courts to the rest of the broader tennis court area.

The land at the CSO storage tank site would have limited options to be developed for future recreational use because of the presence of the tank and because the surface would be paved and contain access hatches. The presence of the project facilities would result in a dedicated use of the sub-surface area and would restrict certain future uses in the surface area. For example, the presence of the CSO storage tank would complicate siting certain structures or developing a treed area in that location. However, if tennis courts were not the preferred recreational use, the surface area could be used for other recreational purposes that require a paved surface, such as basketball courts, a skateboard park, or additional parking for access to recreational opportunities, or it could provide additional open space.

Playground adjacent to Parking Lot 1

- ***Playground.*** Construction activities and associated impacts such as noise, dust, and construction traffic would impact users of the main Seward Park playground, which is located behind Parking Lot 2. Seattle Parks does not track statistics on usage of the playground. However, Seattle Parks staff estimates that approximately 14,600 children and caregivers use the playground each year. This usage varies depending on the season and day of the week with more usage in the summer and on weekends. The estimated number of 14,600 people includes repeat users and does not represent 14,600 unique individuals.

Playground in park interior

(Seattle Parks 2011a personal communication.) Seattle Parks recently rebuilt the playground and provided modern equipment and shoreline views. Because the noise and disruption at the playground would affect small children and infants, it is assumed that two-thirds to three-quarters of the people who typically use the main Seward Park playground may not use the playground or may use another playground during construction, to avoid construction noise and traffic. That would result in approximately 24,300 to 27,400 uses of other playgrounds over the course of up to 30 months of construction. Local residents that now walk to the playground at Seward Park and are disturbed by the construction may drive to an alternative playground. There are nine playgrounds in the project vicinity (within 5 miles); eight in parks along the shoreline and one located to the west at Brighton Playfield Tennis Courts. The nine playgrounds provide a range of play opportunities, some of which are equivalent to the Seward Park playground and others that may not be considered equivalent.

There is a second, much smaller play area within the park interior (see Figure 4-2). However, the second play area does not provide an equivalent recreational experience. It consists of a dirt area and a swing set, with no shoreline views. Families who visit the smaller play area are unlikely to notice construction disturbance due to its distance from the construction area.

- ***Picnic Shelters.*** Construction activities and associated impacts such as noise and dust may impact users of Picnic Shelters 1 and 2. Picnic Shelter 1 next to Parking Lot 2 is reserved for use by a total 1,000 individuals per year. An unknown number of individuals use the shelter on an informal basis. Impacts from construction disturbance would decrease the farther a shelter is from the construction site. Shelter 2 would receive more impacts than Shelters 3, 4, and 5. It is assumed that a small portion of Shelter 1 and 2 visitors would choose to use Shelters 3, 4, or 5, or a different park with shelters, and those shelters may have a slight increase in usage. Shelter 1 is the only ADA accessible shelter. Construction would disturb access to Shelter 1 from Parking Lot 2. ADA users would need to access the shelter through the playground. Most picnic shelter users may choose one of the other three shelters within Seward Park or visit a nearby park to avoid construction impacts.
- ***Audubon Center and Clay Studio.*** Construction activities and associated impacts such as noise and dust, as well as parking lot closures, may impact users of the Audubon Center and the clay studio. In 2011 approximately 11,000 people visited the Audubon Center and another approximately 10,000 people attended school or community programs at the Audubon Center (Audubon Center 2011). These numbers include repeat users and do not represent unique individuals. The clay studio typically has 105 to 125 students per quarter, with winter and spring being the heaviest quarters and summer the least busy (Parks 2012). The Audubon Center has an annual budget of about $415,000. Approximately $33,000 of their revenue is from program tuition, building rentals, and store sales. The remainder of their revenue is obtained from individual and foundation grants and donations (Parks 2012). The clay studio's annual budget is about $250,000-$270,000, half of which comes from classes and artist residencies (Parks 2012).

Scheduled activities at the Audubon Center and clay studio would continue during construction, but the number of visitors and program participants may temporarily decrease. This may cause a temporary decrease in revenue from program tuition and building rentals, and may cause a temporary decrease in individual and foundation grants and donations. Impacts to the Audubon Center and clay studio due to the parking lot closures are discussed under the Parking sub-section. Similar impacts are expected for the Amphitheater.

- ***Water Activities.*** Construction could impact water activities in the area between Parking Lot 1 and Parking Lot 2. Boaters launch hand-powered kayaks, canoes, and stand-up paddleboards from the beach. These individuals would likely have difficulty finding a place close to the beach to park and walk their boats to the water to launch. Some boaters may choose to visit another boat launch area within Seward Park or Lake Washington Boulevard Park.

  During construction of shoreline restoration features and the installation of the new outfall pipe, in-water recreational activities such as kayaking, boating, and swimming would be restricted in those locations. To help ensure the safety of swimmers and boaters, access to the shoreline and the CSO outfall areas would be blocked during construction. A low to moderate number of these recreational users may go elsewhere in Seward Park or to a nearby park for swimming, boating, and kayaking.

- ***UPARR Grant Program.*** A small portion of Seward Park would lose protection under the NPS UPARR grant program. Two areas are proposed for conversion (see Figure 3-1). One area, which is 750 square feet, would be the location of aboveground features related to operation of the CSO tank. The second area, which is 3,100 square feet, would be between the rebuilt tennis courts where access hatches would be located.

  This loss of federal protection in Seward Park is not considered significant for several reasons. The affected area represents a small portion of Seward Park. The federal protections would be transferred to another area (the UPARR replacement area in Lake Washington Boulevard Park). The UPARR replacement area meets or exceeds the recreational opportunities in the Seward Park areas. The UPARR replacement area is much larger than the area losing the protections (approximately 21,300 square feet versus 3,850 square feet). The UPARR replacement area is used more for recreation whereas the aboveground features area in Seward Park is a passive area not commonly used for recreation.

- **Recreation and CSO Facility Operations.** Routine maintenance activities (consisting of inspecting the storage tank, facilities vault equipment, hatches, and tipping buckets) are anticipated to impact recreational use at the park because the parking lot and tennis courts would need to be closed. These activities would take place approximately quarterly within the facilities vault (located under Parking Lot 1) and around the tennis court area. It is anticipated one SPU vehicle and two to four SPU maintenance crew staff would be at the site for two to four hours to perform necessary work. These regularly scheduled

activities would be posted to inform park users in advance and could be scheduled during times of less-frequent park use.

Very infrequent CSO storage tank maintenance, including structural inspection of the tank and major equipment replacement, is anticipated to be performed only once every 25+ years. During this infrequent maintenance, access to Parking Lot 1 would be restricted for a period of approximately one to two days. This maintenance would be scheduled during times of less-frequent park use.

As described previously, some maintenance activities would require driving on the surface of the tennis court(s), although the maintenance truck would be routed to the apron outside of the doubles sideline to the extent feasible. The courts would be designed to accommodate maintenance vehicles driving on them. Should damage to the tennis courts occur due this maintenance, the damage would be repaired.

- **Odors and Noise during Operations.** Odors from the CSO system should not be noticeable provided the odor control facilities were functioning properly. The system would be underground so noise would not be noticeable.

Access

Additional traffic would be anticipated at the park entrance during the hours of construction, and would consist of construction trucks and contractor employee vehicles (see Chapter 8 Transportation). Increased traffic during construction would result in a loss of "unconscious influence" of the park experience that the Olmsted Brothers originally envisioned. It would also affect the principle of "orchestration of movement and use" because the circulation of vehicles and pedestrians would be affected. (See Appendix C for description of Olmsted design principles.) After project construction is complete, access would be restored to previous conditions. These impacts would be temporary and not significant.

Parking

Construction would require closing Parking Lot 1 for building the CSO facilities and possibly Parking Lot 2 for staging. This would result in the temporary closure of 28 parking spaces (27 regular and 1 ADA) in Parking Lot 1 for 30 months and 62 parking spaces (58 regular and four ADA) in Parking Lot 2 for 18 to 30 months (see Figure 3-4). Seward Park contains seven public parking lots (see Figure 4-3) providing a total of 351 parking spaces. Closure of the 90 parking spaces in Parking Lots 1 and 2 would result in a 25 percent reduction of available parking in Seward Park. Use of parking spaces typically turns over throughout the day; therefore, the closure of the 90 parking spaces impacts more than 90 vehicles.

While Parking Lots 1 and 2 are temporarily closed, park visitors, whether for regular park use or for special events, could use other parking lots within Seward Park or on-street parking on nearby residential streets. Temporary ADA parking spaces would be provided (likely in Parking Lot 3) to replace those unavailable during construction. Within a half-mile area of Seward Park, there are approximately 1,400 on-street parking spaces (see Figure 4-4). This on-street parking is currently used during peak park usage and special events at Seward Park.

Existing use of the Seward Park parking lots and nearby on-street parking was assessed by conducting a traffic study (HDR 2012a). The study was performed on a sunny Friday, Saturday, and Sunday during August to reflect peak summer time use; more spaces likely would be available at other times. The results are summarized in Table 4-1. Parking Lots 1 and 2 were not at full capacity on the Friday or Sunday, but were full in mid afternoon to early evening on the Saturday. Parking Lots 3 through 7 were not at full capacity on the Friday, but were full in mid afternoon to early evening on the Saturday and Sunday.

Table 4-1. Peak Season Parking Lot Usage – Existing Conditions

Day of Week	Parking Lots 1 and 2 at Full Capacity	Parking Lots 3 through 7 at Full Capacity	Combined Parking Lots 1 through 7 at Full Capacity
Friday	No	No	No
Saturday	Mid afternoon to early evening	Mid afternoon	Mid afternoon
Sunday	No	Mid afternoon to early evening	Mid afternoon to early evening

Existing use of on-street parking was assessed by conducting a field study; see Appendix C for more details (HDR 2012a). The study was conducted on a warm Saturday in August to reflect peak summer time use; more spaces likely would be available at other times. Approximately 80 percent (or 1,160 spaces) of the on-street parking spaces within the half-mile area around Seward Park were available. Generally, streets closer to Seward Park had less available spaces and streets farther away had more available spaces. Only one street (South Juneau Street directly west of the park entrance) had no available spaces. The lower parking lots in Seward Park (Parking Lots 1 through 3) were nearly full during the study. The availability of on-street parking spaces would be higher on weekdays and during the winter, compared to the study.

The anticipated impact of temporarily closing Parking Lots 1 and 2 was analyzed using information from the parking lot traffic study, the on-street parking field study, and special event attendance information. The analysis examined impacts to the remaining parking lots and to on-street parking and considered both regular and special event days. The analysis focused on peak season; the impacts are expected to be less at other times. More information about the analysis is provided in Appendix C.

The impact on Seward Park parking lots and on-street parking on peak season days without special events is shown in Table 4-2. On a typical peak season Friday during construction, the remaining parking lots (Parking Lots 3 through 7) would have the capacity to absorb the vehicles that would have used Parking Lots 1 and 2. However, as described further below, Parking Lots 3 through 7 are not comparable substitutes for Parking Lots 1 and 2 and therefore some vehicles may use nearby on-street parking.

Table 4-2. Peak Season Parking Lot Usage – During Construction

Day of Week	Parking Lots 3 through 7	
	At Full Capacity	Additional Vehicles Parking in Neighborhood[1]
Friday	No	0
Saturday	afternoon to early evening	100
Sunday	afternoon to mid evening	95

[1] Not all of these vehicles would be present at the same time. The number of vehicles is more than the 90 parking spaces due to turnover in vehicles.

On a typical peak season Saturday during construction, approximately 100 vehicles would not be able to find parking in the remaining parking lots (Parking Lots 3 through 7), during the peak afternoon to early evening time frame. These vehicles could use the surrounding neighborhood for parking. The Seward Park parking lots were full for approximately four hours on Saturday during the parking lot traffic study. Assuming each of the 100 vehicles stays for two hours, there would be approximately an additional 50 vehicles in the neighborhood during the peak afternoon to early evening time frame. On-street parking would be able to accommodate these vehicles, since the field study documented 1,160 available spaces during a peak season day.

On a typical peak season Sunday during construction, there would be approximately 95 vehicles that would not be able to find parking in the remaining parking lots (Parking Lots 3 through 7), during the peak afternoon to mid evening time frame. These vehicles could use the surrounding neighborhood for parking. The Seward Park parking lots were full for approximately seven hours on Sunday during the parking lot traffic study. Assuming each of the 95 vehicles stay for two hours, there would be approximately an additional 25 vehicles in the neighborhood during the peak afternoon to mid evening time frame. On-street parking would be able to accommodate these vehicles, since the field study documented 1,160 available spaces during a peak season day.

For special events, the impact depends on the size of the event, as shown below. The impact analysis compares the estimated number of event vehicles using the Seward Park parking lots and on-street parking under existing conditions and during construction.

- **Small Events:** Small events are those with attendance of less than 300 people. Seward Park typically hosts approximately 15 small events per year. Examples range from the Family Bike Event (attendance 100) to the Epiphany School Stewardship Project (attendance 275). The impact analysis is based on an event with attendance of 299 people. Assuming two people per car, there would be 150 event vehicles.

  Existing Conditions: There are 351 total parking spaces in Seward Park. Approximately half of the spaces (175) were assumed to be available for event vehicles and half for regular park users. Because there are an estimated 150 event vehicles and 175 parking spaces for event vehicles in Seward Park, the parking lots in Seward Park would likely accommodate all of the event vehicles. However, as described further below, Parking

Lots 3 through 7 are not comparable substitutes for Parking Lots 1 and 2 and therefore some event vehicles may use nearby on-street parking.

During Construction: There would be 261 parking spaces in Seward Park after closure of Parking Lots 1 and 2. Approximately half of the spaces (130) were assumed to be available for event vehicles and half for regular park users. Because there would be 150 event vehicles and only 130 parking spaces for event vehicles in Seward Park, approximately 20 event vehicles would be displaced from the parking lots into on-street parking. The 20 vehicles represent 1 percent of the total on-street parking spaces (1,400 spaces) and a 2 percent reduction in the on-street parking spaces typically available during special events of this size (1,160 spaces on a peak season day; some of the 1,400 spaces would be used by regular park users). The impact of the parking lot closures during small events would inconvenience visitors, however the visitors would likely find nearby on-street parking.

- **Medium Events:** Medium events are those with attendance of 300 to 999 people. Seward Park typically hosts approximately 15 medium events per year. Examples range from the Beat the Eggs Run and Walk (attendance 300) to the Hike and Seek Walk (attendance 500). The impact analysis is based on an event with attendance of 999 people. Assuming two people per car, there would be 500 event vehicles.

  Existing Conditions: There are 351 total parking spaces in Seward Park. Approximately half of the spaces (175) were assumed to be available for event vehicles and half for regular park users. Because there are an estimated 500 event vehicles and only 175 parking spaces for event vehicles in Seward Park, 175 event vehicles likely would use the Seward Park parking lots and 325 event vehicles likely would use on-street parking within a half-mile of the park.

  During Construction: There would be 261 parking spaces in Seward Park after closure of Parking Lots 1 and 2. Approximately half of the spaces (130) were assumed to be available for event vehicles and half for regular park users. Because there would be 500 event vehicles and only 130 parking spaces for event vehicles in Seward Park, approximately 370 event vehicles would likely use on-street parking. This is an increase in 45 event vehicles (370 during construction versus 325 existing conditions) using on-street parking. The 45 additional event vehicles would be combined with 45 regular park use vehicles, for a total of 90 vehicles displaced from the Seward Park parking lots, which represents an 11 percent reduction in the on-street parking spaces typically available during special events of this size. Approximately 800 parking spaces would still be available within a half-mile of the park. Those 90 vehicles represent 18 percent of the 500 event vehicles. The impact of the parking lot closures during medium events would inconvenience visitors, however, the visitors would likely find on-street parking within a half-mile from the park.

- **Large Events:** Large events are those with attendance of more than 1,000 people. Seward Park typically hosts approximately 15 large events per year. Examples range from the New Balance Girls on the Run 5k (attendance 1,000) to Seafair (attendance 300,000). The impact analysis is based on an event with attendance of 30,000 people, which is the attendance for the second largest Seward Park event (Pista Sa Nayon). Seafair was not used because its attendance is an order of magnitude higher than the next largest event. Assuming two people per car, there would be 15,000 event vehicles.

  Existing Conditions: There are 351 total parking spaces in Seward Park. Approximately half of the spaces (175) were assumed to be available for event vehicles and half for regular park users. Because there are an estimated 15,000 event vehicles and only 175 parking spaces for event vehicles in Seward Park, 175 event vehicles likely would use the Seward Park parking lots and 14,825 event attendees likely would use on-street parking or shuttles. Furthermore, because there are only 1,160 on-street parking spaces within a half-mile of the park available on a peak season day, 13,665 event attendees likely would use on-street parking from a broader area or shuttles.

  During Construction: There would be 261 parking spaces in Seward Park after closure of Parking Lots 1 and 2. Approximately half of the spaces (130) were assumed to be available for event vehicles and half for regular park users. Because there would be 15,000 event vehicles and only 130 parking spaces for event vehicles in Seward Park, approximately 14,870 event attendees would likely use on-street parking or shuttles. This is an increase in 45 event attendees (14,870 during construction versus 14,825 existing conditions) using on-street parking or shuttles. The 45 additional event vehicles would be combined with 45 regular park use vehicles, for a total of 90 vehicles displaced from the Seward Park parking lots, which represent less than 1 percent of the event vehicles typically needing on-street parking spaces beyond a half-mile from the park or shuttles (13,665 vehicles). Those 90 vehicles represent less than 1 percent of the 15,000 event vehicles. The impact of the parking lot closures during large events would inconvenience visitors and visitors would have to park farther than a half-mile from the park or use shuttles.

While some park users may use the other Seward Park parking lots or on-street parking, those are not comparable substitutes for Parking Lots 1 and 2 and thus some park users may be dissuaded from coming to Seward Park. This impact has the potential to affect all park users, but has more impact on the Audubon Center and the clay studio, which depend on parking for attendance to their programs.

Some park users may not find the alternative parking options convenient or workable because of the added distance, the steep hill, and lack of lighting (for Parking Lots 4, 5, 6 and 7), or carrying heavy loads (even with an unloading zone). One of the other five Seward Park parking lots (Parking Lot 3) is relatively close, approximately 500 feet, to Parking Lots 1 and 2. The other Seward Park parking lots (Parking Lots 4, 5, 6, and 7) are 600 to 1,800 feet away and are up a steep hill that is unlit at night. Every Thursday evening in the summer, the upper loop road

is closed from 4 p.m. to 9 p.m. for bike racing, which limits access to Parking Lots 4, 5, 6, and 7 and, therefore, the impact is increased at those times.

Additionally, more demand for on-street parking because of closure of Parking Lots 1 and 2 would inconvenience and impact residents in the adjacent neighborhood. They would have less on-street parking for themselves and their visitors, there would likely be more litter left on the streets, and there would be additional traffic and people in the area.

Following construction, Parking Lot 1 would be replaced and Parking Lot 2 would be resurfaced, restriped, and reopened to the public. See Table 4-3 for a list of the changes in the number of parking spaces available after construction. The impacts following construction would not be significant because most parking would be restored and the loss of two public parking spaces represents a very small portion (less than 1 percent) of parking capacity in Seward Park.

Table 4-3. Existing and Post Construction Parking Spaces – Tennis Courts Alternative

Type of Parking Space	Number of Existing Parking Spaces	Number of Parking Spaces after Construction	Change in Number of Parking Spaces
Parking Lot 1 (Tennis Courts)			
Regular Vehicle	27	24	- 3
ADA-accessible	1	2	+ 1
Maintenance Vehicle Restricted	0	2	+ 2
Parking Lot 2 (Larger Lot)			
Regular Vehicle	58	58	No change
ADA-accessible	4	4	No change
Maintenance Vehicle Restricted	0	0	No change

Special Events

Special events that use Seward Park as their starting or ending point or staging area would be affected by the reduction in available parking and event staging areas, congestion, and increased traffic, noise, and dust during construction. As discussed above, the closure of Parking Lots 1 and 2 would impact parking for special events and have a lesser impact on event staging, since most of the events use the lots for parking and not for staging. Some of these special events may choose to relocate temporarily to another location in Seward Park, to another park, or to a non-park location. Some special events may not come back to Seward Park after construction. Finding a suitable alternative location, either park or non-park based, may be difficult in some cases. During Seafair, the largest special event in Seward Park, construction in the park would be suspended.

No impacts to special events would be anticipated following construction. Although periodic maintenance would occur, it would normally be scheduled to avoid special events at the park.

Public Safety

No significant impacts to public safety are anticipated during construction. Construction and staging areas would be fenced and signs would be posted keeping the public out of the construction zone. Flaggers and cones would control the traffic where trucks would enter and leave the construction site to protect the safety of pedestrians and private vehicles.

No impacts to public safety are anticipated following construction. Ongoing activities would include maintenance, periodic inspections, and infrequent tank cleaning. The area around where routine maintenance occurs would be cordoned to restrict public access. Access to the CSO tank and facility would be limited to SPU crews and the access hatches would be locked.

4.2.1.2 UPARR Replacement Area

The transfer of UPARR grant protections, as well as the construction of the upland landscaping enhancements, would occur in advance of or simultaneously with the proposed construction at Seward Park. Impacts to the UPARR replacement area during construction would include: temporary closure of a small area of Lake Washington Boulevard Park; temporary construction-related impacts to park users (e.g., noise, dust, traffic); and routine maintenance activities. These impacts are described below and are not expected to be significant.

UPARR Replacement Area

During installation of the upland landscaping enhancements, the entrance to the parking lot on Lake Washington Boulevard at 53rd Avenue South may be blocked periodically for deliveries and hauling of materials. The park trail would remain open during construction as well as part of the parking lot. A small portion of the parking lot (a few of the 33 spaces) may be used for staging of the landscaping materials and equipment during the 4 to 6 week landscaping construction period.

Park users would likely notice noise and increased traffic from construction vehicles during construction at the UPARR replacement area. Construction of the proposed upland landscaping enhancements at the UPARR replacement area would last approximately 4 to 6 weeks and include direct impacts on cyclists and pedestrians using the Lake Washington Boulevard Park. Cyclists may choose to use the path rather than the road to avoid construction traffic, resulting in a more crowded path. The park trail would remain open during construction as well as part of the parking lot. The area within the construction limits at the UPARR replacement area would be closed. However, there are no defined uses of this space and areas to the immediate south could accommodate similar uses that would be lost during construction. Construction would result in a disruption of the aesthetic quality and use of the boulevard as a "pleasure drive," according to Olmsted principles (see Appendix C). These impacts would be

temporary and are not significant. Access to the shoreline would be blocked within the construction limits. Construction at the UPARR replacement area would be scheduled to avoid major special events in the area.

Water and beach access would continue to be available to the north at the hand boat launch ramp and to the south, including the kayak launch area adjacent to the parking lot. Impacts on park users and those wishing to access the water would be minimal as there are other places along the lake where visitors can access the water.

No impacts are anticipated after construction is completed. The shoreline would contain drifts of shrubs and groundcovers, similar to the original vision of the Olmsted Brothers. Routine maintenance of the lawn, drifts of shrubs, and groundcover (see Figure 3-9) would be periodic (similar to existing maintenance efforts) and would not interfere with use of the park.

4.2.2 Direct Impacts – Parking Lot Alternative

There are multiple impacts to recreation during and following construction, as discussed below.

4.2.2.1 Seward Park

Park Use

The construction impacts on Seward Park use under the Parking Lot Alternative would be similar to those described for the Tennis Courts Alternative. Figure 3-5 shows what areas would be closed under the Parking Lot Alternative. The Parking Lot Alternative would have direct impacts on the tennis courts, sewage pump station, vegetation, and nearby park amenities. Additional or different impacts from those described for the Tennis Courts Alternative are described for the Parking Lot Alternative below.

- ***Tennis Courts.*** The tennis courts likely would be closed for 18 to 30 months due to the adjacent parking lot (Parking Lot 1) likely being used for construction staging and contractor parking. Similar to the Tennis Courts Alternative, during construction, park users would need to travel to one of eight other public tennis facilities in order to play tennis.
- ***Playground and Picnic Shelter 1.*** The playground and Picnic Shelter 1 (Figure 4-2) are located immediately adjacent to the CSO excavation area for the Parking Lot Alternative. Construction activities and related impacts, such as noise and dust, would be greater under the Parking Lot Alternative because the activities would be located closer to park facilities than under the Tennis Courts Alternative. It is assumed that at least two-thirds to three-quarters of the usual playground users may not use the playground or may use another park during construction.
- ***Audubon Center and Clay Studio.*** Because the Audubon Center and clay studio would be much closer to the Parking Lot Alternative than to the Tennis Courts Alternative, construction of the Parking Lot Alternative likely would have more impact on users of the Audubon Center and the clay studio. Scheduled activities at the Audubon Center and clay studio would continue during construction, but the number of visitors and program

participants likely would temporarily decrease. This would cause a temporary decrease in revenue from program tuition and building rentals, and might cause a temporary decrease in individual and foundation grants and donations. Impacts to the Audubon Center and clay studio due to the parking lot closures are discussed under the Parking sub-section.

- **Parking Lot 2 Area.** The row of poplar trees near the parking lot would be removed as part of construction of the CSO storage tank, which would provide expansive views of south Lake Washington and Mount Rainier. A mix of native deciduous trees, low shrubs, and groundcover would be planted between Parking Lot 2 and the existing path to the north (Figure 3-8). Shrubs and groundcover also would be provided to screen the aboveground features. The addition of low shrubs and groundcover between the parking lot and pedestrian path would be in keeping with the natural character of the park and Olmsted design principles.

  The area at the CSO site under the parking lot would have limited options for future recreational development because it would be paved and contain access hatches. However, the presence of the storage tank would not prevent rebuilding of the existing parking lot so that the public would continue to have adequate access to the park.

- ***UPARR* Grant *Program.*** The area proposed for UPARR conversion within Seward Park under the Parking Lot Alternative is 15 feet wide by 50 feet long (750 square feet), and is not a commonly used area for passive or active recreation (see Figure 3-2). It is at the northeast corner of Parking Lot 2 on the grassy area between the parking lot and the trail. The area would be visible from all directions, including Parking Lot 2 and the trail, and at a distance from east and west, whereas the conversion area proposed for the Tennis Courts Alternative is more likely to be seen only from Parking Lot 1. The conversion area would be the location of approximately a half dozen aboveground features related to operation of the CSO tank, and would not be available for future development as a recreational area. The conversion area would likely be screened with vegetation to obscure views partially. The loss of federal protection in this small area in Seward Park is not considered significant for the same reasons discussed under the Tennis Courts Alternative.

Access

The impacts on access to Seward Park under the Parking Lot Alternative would be the same as those described for the Tennis Courts Alternative.

Parking

The construction impacts on parking at Seward Park under the Parking Lot Alternative would be similar to those described for the Tennis Courts Alternative. Ninety spaces would be closed during construction due to closure of Parking Lots 1 and 2 (see Figure 3-5). Similar to the Tennis Courts Alternative, the reduction in parking during construction would likely be significant during periods of peak park usage, for example on summer weekends, when park users may not be able to find parking that is close enough for their needs. Park usage may decrease and users may opt to use other parks.

Following construction, Parking Lot 2 would be replaced and Parking Lot 1 would be resurfaced, restriped, and reopened to the public. See Table 4-4 for a list of the changes to the number of parking spaces available after construction. The impacts following construction would not be significant because most parking would be restored and the combined loss of five public parking spaces represents a very small portion (less than 1 percent) of parking capacity in Seward Park.

Table 4-4. Existing and Post Construction Parking Spaces – Parking Lot Alternative

Type of Parking Space	Number of Existing Parking Spaces	Number of Parking Spaces after Construction	Change in Number of Parking Spaces
Parking Lot 1 (Tennis Courts)			
Regular Vehicle	27	25	- 2
ADA-accessible	1	2	+ 1
Maintenance Vehicle Restricted	0	0	No change
Parking Lot 2 (Larger Lot)			
Regular Vehicle	58	54	- 4
ADA-accessible	4	4	No change
Maintenance Vehicle Restricted	0	2	+ 2

Special Events

The impacts on special events at Seward Park under the Parking Lot Alternative would be the same as those described for the Tennis Courts Alternative, which may be significant during construction if other, nearby locations are not available on the schedule required for the event.

Public Safety

Like the Tennis Courts Alternative, no significant impacts to public safety are anticipated during or following construction of the Parking Lot Alternative. Proposed vegetation between the parking lot and pedestrian pathway would include low shrubs and groundcover to allow for continued surveillance by police, emergency personnel, and Seattle Park staff.

4.2.2.2 UPARR Replacement Area

The impacts under the Parking Lot Alternative would be the same as those described for the Tennis Courts Alternative and would not be significant.

4.2.3 Indirect Impacts – Tennis Courts Alternative

4.2.3.1 Seward Park

Indirect impacts due to construction of the CSO storage facility in Seward Park consist of impacts to other parks and tennis courts.

Park Use. Because available parking spaces would be decreased by 25 percent at Seward Park and the use of some park areas would be reduced or impaired during construction, park users who are interested in similar shoreline-based recreational experiences may decide to move to other locations in Seward Park, Lake Washington Boulevard Park, or other parks along

the western shore of the lake. This increased use at other parks or within Seward Park may or may not be noticeable and could adversely affect the recreational experience of some park users. Additionally, there may be more competition for parking spaces.

Tennis Courts. The use of the tennis courts at Seward Park would be discontinued during the construction period. Recreational users accustomed to playing at these tennis courts would be required to seek alternative locations. The eight public tennis facilities (32 courts) in the vicinity that could receive increased use are listed below:

- Brighton Playfield (6000 39th Avenue South): 2 concrete courts.
- Rainier Playfield (3700 South Alaska Street): 4 lighted laykold courts. (Laykold is a special surface used for tennis courts.)
- Dearborn Park (2919 South Brandon Street): 2 asphalt courts.
- Rainier Beach Playfield (8802 Rainier Avenue South): 4 lighted laykold courts.
- Amy Yee Tennis Center (2000 Martin Luther King Jr. Way South): 10 indoor and 4 outdoor courts.
- Sam Smith Park (1400 Martin Luther King Jr. Way South): 2 outdoor courts.
- Leschi Park and Tennis Courts (201 Lakeside Avenue): 2 outdoor courts.
- Madison Park and Tennis Courts (East Madison and East Howe Streets): 2 outdoor courts.

As noted in Section 4.2.1.1, approximately 2,200 people play tennis at the Seward Park courts each year (Seattle Parks 2011a personal communication). The estimated number of 2,200 people includes repeat users and does not represent 2,200 unique individuals. Some portion of these 2,200 players may elect to play at one or more of the eight other nearby tennis facilities during construction. For this analysis, SPU assumed that one-tenth to one-third of the 2,200 players might go to one of the 32 other courts. That would be from approximately 220 to 730 players using another court over the course of a year. Based on the total number of courts, if the players distributed equally to each of the remaining courts, each remaining court would see up to 23 additional players per year during construction.

4.2.3.2 UPARR Replacement Area

The impacts of construction would have no indirect impacts to the UPARR Replacement Area. The improvements to the grant replacement area would be limited to a specific area and would allow for the continued use of the park trail and nearly all of the adjacent parking lot. Therefore, the construction would not displace park users and cause indirect impacts. Following construction, no indirect impacts are anticipated.

4.2.4 Indirect Impacts – Parking Lot Alternative

4.2.4.1 Seward Park

The indirect impacts related to Seward Park associated with the Parking Lot Alternative would be very similar to those for the Tennis Courts Alternative. Because the excavation area for the Parking Lot Alternative would be under Parking Lot 2, which is very close to Picnic Shelter 1, more users may choose to visit another shelter within Seward Park or a nearby park than under the Tennis Courts Alternative. In addition, the Audubon Center and playground is closer to the construction site for the Parking Lot Alternative, and visitors may notice more construction disturbance than under the Tennis Courts Alternative.

4.2.4.2 UPARR Replacement Area

The indirect impacts related to Lake Washington Boulevard Park and the UPARR replacement area associated with the Parking Lot Alternative would be the same as those for the Tennis Courts Alternative.

4.2.5 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

4.3 What measures would reduce or eliminate potential impacts on recreation resources?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to recreation during and after construction. The measures would include, but are not limited to, those listed below:

Park Use and Access

- Consider a range of construction staging methods and sites, including offsite locations, to minimize impacts on park users.
- Return recreational uses disrupted during construction to pre-construction conditions or better.
- Schedule construction to avoid or minimize overlap with the construction of other projects in the vicinity to the extent feasible.
- Provide advance public notice, signage, and website information regarding restrictions to shoreline areas, parking lots, tennis courts, and options for other nearby recreation areas and parking areas.
- Perform routine maintenance activities during periods of low park use.

- Restore the shoreline using native Northwest plants, guidance from the Seward Park Vegetation Management Plan, and review and approval from Seattle Parks.
- Restore the landscaping around the aboveground features with native plants and a planting plan that incorporates Olmsted design principles.
- Improve ADA access to picnic shelters such as 3, 4, and 5.

Parking

- Provide advance public notice, signage, and website information regarding alternative parking locations.
- Continue communications and outreach efforts, including briefings to community and stakeholder groups and SPU tables at events in Seward Park and other community events.
- Place signage at the entrance of Seward Park showing locations of alternative parking locations within the park and alternative playground areas.
- Provide drop off zone and short-term parking to unload passengers, strollers, kayaks, etc., near the entrance to Seward Park.
- Provide temporary ADA parking spaces to replace those unavailable during construction.
- Restore as many parking spaces as possible.
- Restore use of parking lot as soon as feasible.

Special Events

- Coordinate construction hours with the scheduling of special events at Seward Park.
- Suspend construction in the park during Seafair.
- Work with Seattle Parks and event coordinators to find new staging locations (e.g., the Seward Park meadow or Genesee Park) for use during special events.
- Avoid scheduling routine maintenance during special events.
- Provide advance public notice, signage, and website information regarding construction dates.

Public Safety

- Install fencing around the construction site and clearly mark construction areas.
- Use flaggers when trucks and heavy equipment enter or exit the park.
- Monitor construction to confirm that the contractor complies with public safety plans.
- Provide advance public notice, signage, and website information regarding construction dates.

4.4 Would the proposed project have any significant unavoidable adverse impacts on recreation?

Construction of the proposed project would have the following short-term, unavoidable impacts on recreation:

- **Temporary Closure of Tennis Courts:** For the Tennis Courts Alternative, the tennis courts would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Parking Lot Alternative, the tennis courts would be closed for 18 to 30 months if selected as a location for construction staging. The closure of the tennis courts would require people to travel to other tennis courts in the area and increase the competition for court time.
- **Temporary Closure of Parking Lot 1:** For the Tennis Courts Alternative, Parking Lot 1 would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Parking Lot Alternative, Parking Lot 1 would be closed for 18 to 30 months if selected as a location for construction staging. The closure of Parking Lot 1 would reduce available parking, increase traffic congestion, reduce staging areas for special events, and make recreational facilities less accessible within Seward Park, particularly on weekends and in the summer. Some park users may choose to use on-street parking outside of the park, reducing the availability of on-street parking for other uses, or use other parks, increasing the level of activity at those locations.
- **Temporary Closure of Parking Lot 2:** For the Parking Lot Alternative, Parking Lot 2 would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For the Tennis Courts Alternative, Parking Lot 2 would be closed for 18 to 30 months if selected as a location for construction staging. The closure of Parking Lot 2 would reduce available parking, increase traffic congestion, reduce staging areas for special events, and make recreational facilities less accessible within Seward Park, particularly on weekends and in the summer. Some park users may choose to use on-street parking outside of the park, reducing the availability of on-street parking for other uses, or use other parks, increasing the level of activity at those locations.

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5 Cultural Resources

5.1 What are cultural resources?

The term “cultural resources” encompasses archaeological sites, Native American and other traditional cultural resources, historic buildings and structures, planned landscapes, historic districts, and other valued cultural resources. “Historic property” is a technical term from the National Historic Preservation Act (NHPA) (16 U.S.C. 470w, Section 301) that denotes properties that have recognized public significance and are listed or eligible for listing in the National Register of Historic Places (NRHP). For this project, historic properties also include those listed in the Washington Heritage Register (WHR), and properties designated as local landmarks or historic districts by the City of Seattle’s Historic Preservation Program. A property that is listed in the NRHP is also listed in the WHR. Historic properties include districts, sites, buildings, structures, objects, and landscapes significant in American history, prehistory, architecture, archaeology, engineering, and culture.

5.2 What regulations protect cultural resources?

The NHPA is the primary mandate governing projects under federal jurisdiction that might affect historic properties. Section 101 of the NHPA created the role of the State Historic Preservation Officer (SHPO) and specified that each state have a SHPO. In Washington State, the director of the Department of Archaeology and Historic Preservation (DAHP) is the SHPO; she and her staff fulfill the SHPO responsibilities. Section 106 of the NHPA requires federal agencies to consider the effects on historic properties from actions on federal property or that they fund or approve. The regulations implementing Section 106 are codified at 36 Code of Federal Regulations (CFR) 800. Paragraph 36 CFR 800.5(a)(1) defines an adverse effect to a historic property as one that may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish the property’s integrity. Section 106 of the NHPA is applicable because the NPS has a federal approval responsibility related to their UPARR grants at Seward Park.

SEPA also requires project effects on cultural resources be considered in weighing the overall effect of the project on the environment, as stipulated in WAC 197-11-960 and SMC 25.05.960. SEPA requires the consideration of any significant environmental impacts to cultural and historic resources, requires that effects on cultural and historic resources be taken into account in the threshold determination process (WAC 197-11-330, SMC 25.05.330), and considered in the EIS (WAC 197-11-440, SMC 25.05.440), and stipulates that historic and cultural preservation is an element of the environment (WAC 197-11-444, SMC 25.05.444). Native American burials are protected under RCW 27.44, and effects to archaeological sites are regulated by RCW 27.53.

Consultation with interested and affected parties is required as part of the NEPA (NHPA Section 106) and SEPA processes. Section 106 defines consulting parties as the SHPO, Native American tribes, representatives of local governments, applicants for federal assistance, and individuals and organizations with a demonstrated interest in a project or concern with the proposed project's effects on historic properties. Because consultation is ongoing, all determinations of eligibility and findings of effect for historic properties presented in this chapter are pending concurrence by the SHPO.

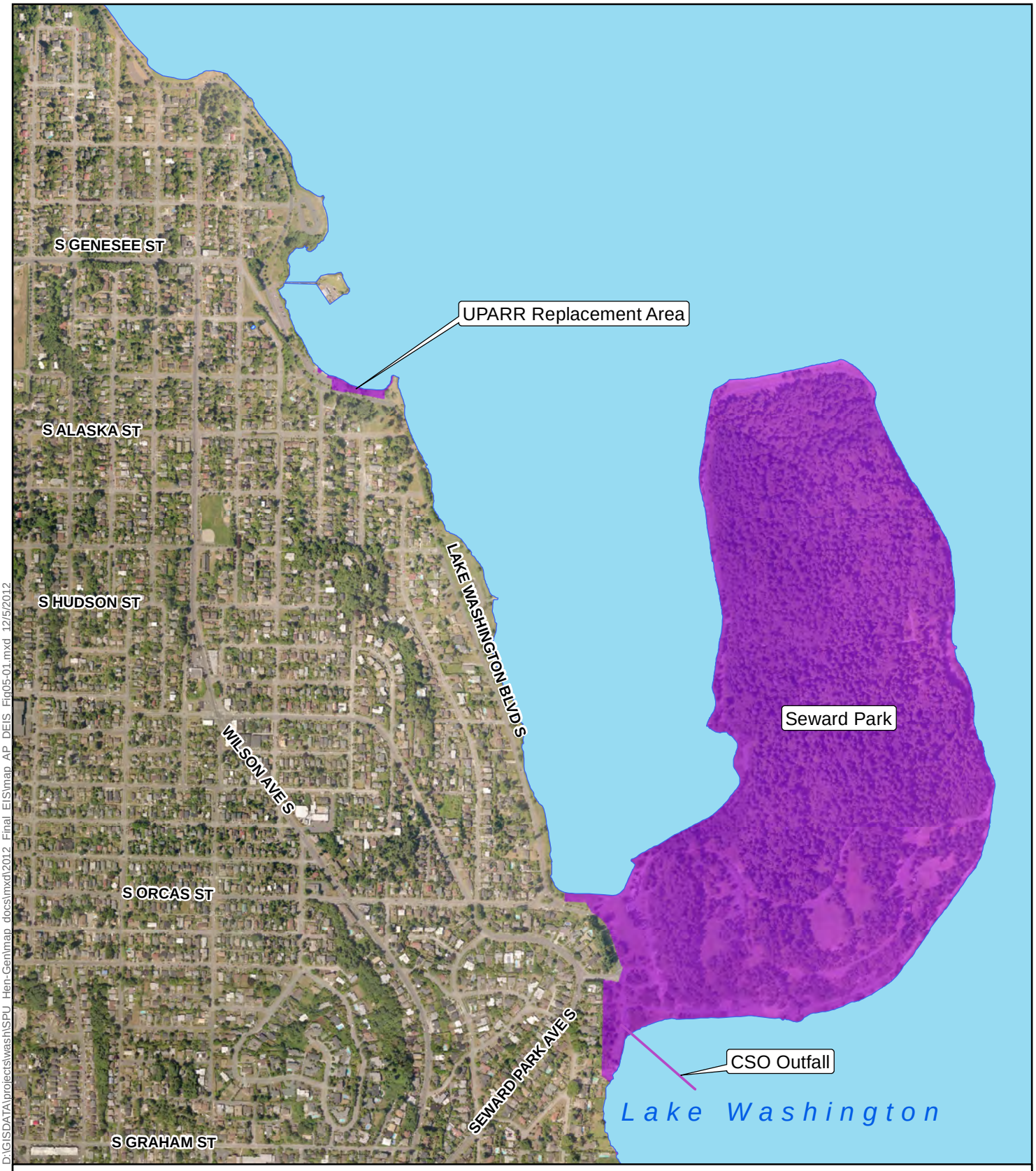
5.3 What is the Cultural Resources Study Area?

As part of the SEPA environmental review required for the entire proposed project, the area assessed for cultural impacts includes all of Seward Park, the CSO outfall, and the UPARR replacement area as shown on Figure 5-1. The study area is surrounded by residential neighborhoods to the west and Lake Washington to the east, and is completely on land owned by Seattle Parks. The study area is located in Sections 14, 23, and 24 of Township 24 North, Range 4 East.

As part of Section 106 of the NHPA, the lead federal agency, in consultation with the SHPO, must determine the Area of Potential Effects (APE). The APE is defined under Section 106 as the area within which a project has the potential to affect historic properties, should such properties exist (36 CFR 800.16(d)). For the UPARR grant relocation portion of the proposed project (i.e., the portion of the project that requires a NEPA environmental review), NPS determined the APE is noncontiguous and encompasses two areas totaling approximately 3,850 square feet of property within Seward Park where the UPARR protection would be removed (see Figure 3-1), and the UPARR replacement area of approximately 21,300 square feet along Lake Washington Boulevard (see Figure 3-3). NPS also would consider indirect effects from their undertaking on the rest of Seward Park. The SHPO concurred with NPS's definition of the APE on June 13, 2012. (See Appendix D for the correspondence from NPS and DAHP regarding the APE.)

5.4 What methods were used to identify cultural resources in the project area and assess potential impacts to them?

The project area was assessed for historic properties (HRA 2012). In determining the potential for historic built environment resources, research was limited to the study area. For archaeological resources, a half-mile radius surrounding the study area was searched. Washington's Information System for Architectural and Archaeological Records Data (WISAARD), DAHP online database was searched for Historic Property Inventory (HPI) forms, archaeological sites, cultural resource survey reports, cemetery records, and the locations of NRHP and WHR properties within the study area. Three previous cultural resource surveys that have been conducted within a half-mile of the study area were reviewed; no significant cultural resources were identified in any of these surveys. The City of Seattle Landmarks Register and the searchable Department of Neighborhoods database were also checked for information on previously identified properties. Historical nineteenth-century maps from the United States



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Legend

Study Area for Cultural Resources

0 500 1,000 2,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

STUDY AREA FOR CULTURAL RESOURCES

JANUARY 2013

FIGURE 5-1

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Surveyor General Land Office and Sanborn Fire Insurance Maps were reviewed to identify historic-period sites, features, or structures that may still exist in the study area. [More details on cultural resources investigations for the proposed project are provided in the *Cultural Resources Inventory for the Henderson Basin 44 CSO Reduction Project - City of Seattle, King County, Washington,* September 2012, prepared by Historical Research Associates (HRA)]

Research was also conducted to develop a general historical context relative to the project location, as well as Seward Park–specific research to detail the architectural history of the park. Aerial photographs, construction plans, and as-built drawings for Seward Park features were reviewed and research was conducted at the Seattle Municipal Archives and Seattle Public Library, and in online news and periodical archives and websites.

HRA developed probabilities for archaeological resources in the study area prior to fieldwork, based on review of the DAHP statewide predictive model layer; environmental, geological, ethnographic, and archival data; and on previous cultural resources reports near the proposed project. Given that background research showed that the native topography was of glacial origin, and may well have been seasonally inundated, the likelihood for prehistoric archaeological sites is somewhat lower than that predicted by the DAHP model.

The probability is moderate that prehistoric and ethno-historic items may be below the surface along the water's edge. The probability is moderate that the flat area near the road may contain roadside historic trash, and the sloped area may contain household debris such as dishes, bottles, marbles, glass, cans, toys, and construction materials. These probabilities were used to aid in developing the archaeological field strategy.

5.4.1 Field Methods

5.4.1.1 Archaeological Inventory

HRA conducted archaeological inventories of the areas of proposed ground disturbance in Seward Park in April and July 2011. Archaeological survey of the UPARR replacement area was conducted in September 2011. The inventories consisted of pedestrian survey of all exposed ground and the excavation of 25 shovel test probes within the areas proposed for ground disturbance (19 in Seward Park and the remaining 6 in the UPARR conversion area). No paved areas were surveyed. Soil from shovel test probes were sifted using quarter-inch mesh screens. Grassy areas where subsurface ground disturbance is not anticipated were surveyed with pedestrian transects only – no shovel test probes were placed in these locations.

Because it currently is underwater or otherwise obscured, the CSO outlet extending southeast into Lake Washington near the tennis courts could not be directly investigated. Research conducted by Herrera Environmental Consultants was relied on for information on the current condition of the CSO pipe.

5.4.1.2 Built Environment Inventory

HRA performed an architectural inventory of Seward Park in August 2011. Fieldwork included observation of the current conditions and photographic documentation. All elements of Seward Park's built and landscape environment older than 25 years of age were recorded on HPI forms and evaluated under the eligibility criteria of the NRHP, WHR, and City of Seattle Landmarks.

The UPARR replacement area is located within the boundaries of Lake Washington Boulevard Park. Based on the presumption that Lake Washington Boulevard is a linear resource eligible for listing in the NRHP (and currently being recorded and evaluated separate from this project under the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Programmatic Agreement*, May 2, 2011), the boulevard was not recorded or evaluated for the NRHP, and no built environment survey was performed there.

5.5 What is the historical context for the project area?

The study area is located within the traditional territory of the Duwamish Tribe. In 1855, members of the Duwamish and neighboring Puget Sound tribes signed the Treaty of Point Elliott, which provided for the removal of tribal members to reservations.

One ethnographic place name is recorded within the study area. The Duwamish called the Seward Park/Bailey Peninsula that connected the isthmus to the "mainland" by the name *Cka'lapsEb*, meaning "the upper part of one's neck" – a general term used to signify this type of land form (Waterman 1922).

Pioneer settlement came to the area near Seward Park in 1852 with an initial claim staked at Brighton Beach. The actual 277-acre peninsula that would become Seward Park was acquired by William E. Bailey in 1889. What was soon known as "Bailey Peninsula" was undeveloped, including 120 acres of old-growth forest (Tate 2010).

The Olmsted Brothers' nationally renowned landscape architecture firm prepared a plan in 1903 for Seattle's park system titled, "A Comprehensive System of Parks and Parkways," which stated that Bailey Peninsula could be the most important acquisition of the new park system (Klingle 2007, Sherwood 1973, Seattle Parks and Recreation 2011d, Talbert 2011, Hockaday 2009). In 1910 the Seattle City Council approved a $2 million parks appropriation and began acquiring properties for park purposes. As part of this effort, the Seattle City Council took ownership of Bailey Peninsula in 1911. The peninsula was immediately designated a city park and was named after William H. Seward, the U.S. Secretary of State who negotiated the purchase of Alaska in 1867. The Board of Park Commissioners noted that the peninsula was to remain substantially unaltered, which was reflected in the Olmsted Brothers 1912 plan for Seward Park. The Olmsted plan proposed preserving nearly 95 percent of the forest while incorporating improvements designed to "fit the land."

The Lake Washington Ship Canal was constructed between 1911 and 1917 to provide navigable access between Puget Sound's saltwater and Lake Washington's fresh water. Between August and October 1916, as the final dams were removed along the canal, Lake Washington was gradually lowered between 9 and 10 feet, exposing a broad, wave-cut terrace

around the lake periphery (Crowley 1999). This drop in lake level enlarged the Seward Park peninsula, and created the grassy area now leading to the Seward Park bathing beach. The proposed ground disturbance within the study area is in locations where previously submerged lake deposits were exposed when Lake Washington was lowered. Along the shoreline of Lake Washington, these submerged areas may have been previously exposed. A recent study (Troost 2011) found possible evidence of buried shorelines indicating the lake level may have been rising over the last 14,500 years with more rapid submergence in the last 1,000 years until the lake was lowered in 1916.

Seward Park continued to develop throughout the late 1920s and early 1930s, including construction of the Seward Park Inn in 1927.

During the second half of the 1930s the Civil Works Administration, and its successor the Works Progress Administration (WPA), constructed the fish hatchery complex (Hall 1934). WPA workers also constructed a comfort station, renovated the bathhouse ("Seward Park Improvements" 1936), built a bulkhead, and undertook various road improvement projects at Seward Park.

During the 1940s additional structures were built in Seward Park, including an additional comfort station, an additional concession stand (at the bathhouse), and a bathing beach raft, installed near the bathhouse and steps.

During the 1950s and 1960s improvements continued, most notably the construction of the amphitheater (1953 [seats and steps], 1956 [stage and torii]) (Brown 1950, Parks 1953, Parks 1956, Whittington 1953). In 1969 the bathhouse was again modified, this time with a large clerestory addition, to create a cultural arts center (Durning 1969, Sammons 1970).

5.6 What cultural resources were identified in the project area?

Because NHPA Section 106 consultation by the NPS is ongoing, all determinations of eligibility for historic properties presented in this chapter are pending concurrence by the SHPO.

5.6.1 Archaeology

There have been no archaeological sites previously documented within a half mile of the study area, and there are no historic period cemeteries within a half mile of the study area.

The archaeological survey areas for both the Tennis Courts and Parking Lot Alternatives and areas that are currently paved are all located on flat terraces overlooking Lake Washington. These areas are located slightly above the current lake surface, where lake deposits were exposed when the level of Lake Washington was lowered after construction of the Lake Washington Ship Canal in 1916. Prior to the lowering of the lake level, they would have been inundated. Soil here is usually 3 to 9 feet thick. Geotechnical studies conducted for the project indicate that these locations are covered by a half foot to 10 feet of stiff clay fill deposits that overlie bedrock. Given the geology and the fact that these areas were inundated, there is a low possibility for the presence of archaeological sites. There is no evidence of historic settlement

in these areas prior to development of Seward Park. No culturally significant materials were identified during shovel probe testing for either alternative.

No culturally significant materials were identified within the UPARR replacement area that is in the same location for each alternative.

The existing submerged CSO Outfall Pipe is over 25 years of age, and was recorded and evaluated as an archaeological site. It is not eligible for listing in the NRHP or WHR, and not eligible as a City of Seattle Landmark. Because the CSO Outfall Pipe is not a historic property, it was not assessed for project impacts.

5.6.2 Traditional Cultural Properties

No Traditional Cultural Properties have been identified in the study area.

5.6.3 Built Environment

The former Seward Park Inn (now the Seward Park Environmental and Audubon Center) is a designated Seattle Landmark. It is individually eligible for the NRHP and thus eligible for the WHR.

Seward Park as a whole is eligible for listing in the NRHP as a designed historic landscape under Criterion A at the local level for its association with the Olmsted Brothers firm, particularly the work of John Charles Olmsted and James Frederick Dawson, with a period of significance between 1910 and 1936. Additionally, Seward Park is eligible for listing in the NRHP at a local level as a historic district under Criterion A for its association with the general development of the City of Seattle's parks between 1910 and 1934, and for its association with federal and state relief efforts between 1935 and 1941. There are a number of contributing resources (6 buildings, 4 structures, and the fish-hatchery complex within the recommended Seward Park Historic District and Designed Landscape boundaries (Figure 5-2) that encompass the entirety of Seward Park The fish-hatchery complex comprises 6 structures and 3 buildings. (See Table 5-1 for a listing of contributing resources to the Seward Park Historic District.)

The UPARR replacement area is within Lake Washington Boulevard Park. Based on the presumption that Lake Washington Boulevard South, including its adjacent parkland, is a linear resource eligible for listing in the NRHP (and being recorded and evaluated separate from this project under the *SR 520, I-5 to Medina: Bridge Replacement and HOV Project Programmatic Agreement*, May 2, 2011), Lake Washington Boulevard Park is being treated as a historic property for this analysis.

Table 5-1. Seward Park Resources Eligible for the NRHP (Individually or as Contributing Resources within a Historic District)

Resource Name	Resource Type	Date(s) of Construction	NRHP Eligibility
Seward Park Designed Historic Landscape			
Seward Park	Designed Historic Landscape	Designated a city park in 1911	Eligible under Criterion A for its association with the Olmsted Brothers.
Seward Park Historic District			
Seward Park	Historic District	Designated a city park in 1911	Eligible under Criterion A as a historic district for its association with Seattle's park planning efforts, and for its association with federal and state relief in Seattle during the Great Depression.
Bathing Beach and Steps	Structure	Bathing beach and original bathhouse (no longer extant) c. 1926; bathing steps 1931	Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts.
Former Seward Park Inn	Building	1927	Individually eligible under Criterion C. Designated Seattle Landmark (2003). Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts.
Former Bathhouse	Building	1927; major renovation in 1940 by the WPA	Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts and for its association with federal and state relief in Seattle during the Great Depression.
South-Shore Bulkhead	Structure	1930s; extended in 1961; partially repaired in the early 1980s (documentary evidence is very unclear, but it appears the western half consisting of concrete riprap dates from the 1930s period of construction and was likely constructed by the WPA)	Contributing resource to the eligible district under Criterion A for its association with federal and state relief in Seattle during the Great Depression.
North-Shore Comfort Station	Building	1932 by the WPA	Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts.
South-Shore Comfort Station	Building	1932 by the WPA	Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts.

Resource Name	Resource Type	Date(s) of Construction	NRHP Eligibility
Tennis Courts and Poplar Trees	Structure	Relocated to present location sometime between 1932/1933 with second court added likely in 1934/1935; trees planted at approximate time of court construction; current surfacing, fencing, and equipment appears less than 30 years of age	Contributing resource to the eligible district under Criterion A for its association with Seattle's park planning efforts (Possible association with federal and state relief in Seattle during the Great Depression).
5 Former Trout Rearing Ponds	Fish Hatchery Complex (6 structures and 3 buildings)	1935/1936 by Washington Emergency Relief Act Workers (Civil Works Administration and Works Progress Administration)	Contributing resources to eligible district under Criterion A for their association with federal and state relief in Seattle during the Great Depression.
Footbridge			
North Caretaker's Residence			
South Caretaker's Residence			
Pump House			

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
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ELIGIBLE SEWARD PARK HISTORIC DISTRICT AND DESIGNED LANDSCAPE BOUNDARIES

JANUARY 2013 | **FIGURE 5-2**

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5.7 How would the proposed project affect cultural resources?

Because Section 106 consultation is ongoing, all findings of effect for historic properties presented in this chapter are pending concurrence by the SHPO.

5.7.1 Direct Impacts - Tennis Courts and Parking Lot Alternatives

5.7.1.1 During Construction

Archaeology

Only a few portions of the ground within the study area are anticipated to be disturbed by project construction. No cultural materials were identified during shovel probing in these areas. Paved areas have likely been disturbed due to previous construction. The shoreline within the project area was modified by building bulkheads and restoration work. Offshore areas were disturbed by construction, such as for the CSO outfall. Given the extent of disturbance, the geology, and the fact that these areas were inundated in recent history, there is a low possibility of the presence of archaeological sites. Therefore, construction activities related to the Tennis Courts Alternative and the Parking Lot Alternative are not expected to affect archaeological resources.

No archaeological resources were identified within the UPARR replacement area. Therefore, construction activities in the UPARR replacement area under each alternative would not affect archaeological resources.

Built Environment

Tennis Courts Alternative

Under the Tennis Courts Alternative, the removal of the tennis courts, which are a contributing resource to the Seward Park Historic District and Designed Landscape, would be an adverse effect under Section 106 of the NHPA, and a direct impact under SEPA. Although removal of the tennis courts constitutes an adverse effect on the contributing resource, the impact to the overall historic district and designed landscape would be minor. The district/landscape would retain sufficient integrity to convey its historic significance. Furthermore, the Tennis Courts Alternative proposes to reconstruct the tennis courts in almost their exact present location, thereby minimizing the adverse effect on the district/landscape. The existing bulkhead waterward from the tennis courts is not a contributing element to the historic district/landscape, and its removal and replacement would have a negligible effect on the district/landscape.

Parking Lot Alternative

Under the Parking Lot Alternative, the pump station for the Seward Park sewer system would be relocated, but the pump station is not a contributing resource to the Seward Park Historic District and Designed Landscape, and its relocation would have a negligible effect on the historic property.

There would be a minor visual impact on the former Seward Park Inn, a designated Seattle Landmark that is also eligible for the NRHP and WHR, from the Parking Lot Alternative. The proposed storage tank area would be located adjacent to the former Seward Park Inn, but the storage tank would be underground and the associated aboveground facilities would be small and likely screened by vegetation.

The removal of the south shore bulkhead, which is a contributing resource to the Seward Park Historic District and Designed Landscape, would be an adverse effect under Section 106 of the NHPA and a direct impact under SEPA. Although removal of the south shore bulkhead constitutes an adverse effect to the contributing resource, the impact on the overall historic district and designed landscape would be minor. The district/landscape would retain sufficient integrity to convey its historic significance. Furthermore, the Parking Lot Alternative proposes shoreline treatments that maintain the shoreline protection function of the bulkhead, and additionally create a natural shoreline more in keeping with the Olmsted principles and thereby minimizing the adverse effect on the district/landscape.

UPARR Conversion Area

Under both alternatives, the loss of federal UPARR protection from a small portion (3,850 square feet or less than 1 percent) of Seward Park would be considered an adverse effect under 36 CFR 800.5(a)(2)(vii) of Section 106 of the NHPA. Section 106 specifies that the "transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property" is an adverse effect. Although the removal of federal control from this portion of land is considered adverse under Section 106, it is relatively minor under SEPA. The conversion areas would become the location of approximately a half dozen aboveground features related to operation of the CSO tank, but the conversion areas would likely be screened with vegetation to obscure views of the equipment. This vegetation would help restore the park with shrubs and groundcover, and support Olmsted's design principles of "sustainable design" and "unified composition." The UPARR protection that results from the federal control would be transferred to a larger piece of land along Lake Washington Boulevard.

UPARR Replacement Area

The UPARR replacement area is a scenic viewpoint that is part of Lake Washington Boulevard Park, a portion of which has been determined eligible for listing in the NRHP. As noted earlier, Lake Washington Boulevard Park is being treated as a historic property for this analysis. The effects to Lake Washington Boulevard from changes at the UPARR replacement area are the same under each alternative. The proposed landscaping enhancements in the UPARR replacement area would have an effect on Lake Washington Boulevard Park, but the effect of this small section of parkway landscaping on the overall historic property would not be adverse. The alignment of Lake Washington Boulevard Park was planned by the Olmsted Brothers specifically to achieve desired views, and the proposed project would not compromise this. Although non-native plants were a part of the Olmsted vision for Lake Washington Boulevard Park and some non-native plants would be removed, the proposed enhancements would

improve the appearance of this section of Lake Washington Boulevard Park, thereby improving travelers' views and vistas and maintaining the park boulevard's use as a "pleasure drive."

5.7.1.2 After Construction

Operation of the proposed project under the Tennis Courts Alternative and the Parking Lot Alternative would have no effect on archaeological resources or historic built environment properties.

5.7.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

Archaeology

No archaeological resources have been identified in the study area. No archaeological resources are likely to be impacted by activities that are not part of the proposed project but that are clearly induced by the proposed project and would not occur without the proposed project. Therefore, no indirect impacts on archaeological resources are anticipated from either alternative.

Built Environment

The Seward Park Historic District and Designed Landscape and the designed landscape of Lake Washington Boulevard Park would not experience any impacts from the proposed project that are farther away in time or distance. All project-related impacts would be direct impacts, as described above. There are no other actions related to project activities for either alternative that would result in indirect impacts related to historic properties of the built environment.

5.7.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the City expects to replace the existing CSO outfall between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

5.8 What measures would be taken to reduce or eliminate potential impacts to cultural resources?

For both the Tennis Courts Alternative and the Parking Lot Alternative, measures would be taken to help reduce or eliminate potential impacts to cultural resources during construction.

5.8.1 Archaeology

Since no archaeological resources have been identified in the study area, no cultural resources were identified during shovel probe testing, and paved areas of the Tennis Courts Alternative and the Parking Lot Alternative have a low possibility for the presence of archaeological sites, monitoring is not necessary and no further study is needed at this time. Measures to reduce or eliminate impacts to archaeological resources include those listed below:

- Implement inadvertent discovery plan, found in the Cultural Resources Inventory report, Section 7.5. In summary, if evidence of cultural artifacts or human remains, either prehistoric or historic, is encountered during excavation, work in that immediate area would be suspended and the find would be examined and documented by a professional archaeologist in consultation with SHPO and NPS.
- If human remains are discovered during project-related construction, maintenance, or operation activities, follow procedures in *RCW 68.60: Abandoned and Historic Cemeteries and Historic Graves*, and *RCW 27.44: Indian Graves and Records*.

5.8.2 Built Environment

The project is designed so that the two alternatives are in areas of the park where they would have the least impact on the historic built environment. The proposed locations would completely avoid impacts on historic buildings, with the exception of a minor visual impact from the Parking Lot Alternative on the former Seward Park Inn. These locations also avoid impacts on all historic structures except for the tennis courts (Tennis Courts Alternative) and the south shore bulkhead (Parking Lot Alternative).

For the impact to the tennis courts, the proposed project would reconstruct the tennis courts in almost their exact present location. For the impact to the bulkhead, the proposed project includes shoreline treatments that maintain the shoreline protection function of the bulkhead, but improve the setting and create a natural shoreline, more in keeping with the Olmsted principles. The new aboveground structures for the proposed project would likely be visually screened by vegetation, minimizing the visual impacts on the surrounding district/landscape.

The alternatives both incorporate vegetation improvements that would enhance the Olmsted quality of the park by emphasizing native understory and shoreline plantings, and enhancing views. These improvements would return portions of the park back to a character that more closely resembles that envisioned by the Olmsted Brothers, and thereby minimize the effects of the proposed project on the historic park. The small portion of land in Seward Park that would lose federal protection provided by the NPS UPARR grant program for each alternative would be replaced by transferring the UPARR protection to a larger area located to the north of Seward Park, along Lake Washington Boulevard. Thus, the loss of a piece of protected green space in historic Seward Park would be replaced by the protection and enhancement of a larger piece of green space in Lake Washington Boulevard Park, landscaped with a design that is complementary to the Olmsted principles.

5.9 Would the proposed project have unavoidable adverse impacts on cultural resources?

The proposed alternatives would have an adverse effect on historic properties under NHPA Section 106 because of the removal of the historic tennis courts or the south shore bulkhead, which are contributing elements to the NRHP-eligible Seward Park Historic District and Designed Landscape, and from the removal of federal UPARR protection from a section of historic Seward Park. An adverse effect under Section 106 of the NHPA requires formal consultation as mandated in 36 CFR 800.6 to resolve the adverse effect.

NPS would conduct consultation with DAHP and other consulting parties. All terms and conditions, including measures to resolve any adverse effects, would be stipulated in a memorandum of agreement (MOA). An executed copy of the MOA or a binding commitment to those measures that avoid, minimize, or mitigate adverse effects on historic properties would also be part of the SEPA agency decision document. SPU would consult with DAHP to ensure that the stipulations of the MOA mitigate any effects to historic properties below the significance threshold for SEPA.

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6 Aesthetics, Light, and Glare

6.1 What are the existing conditions of aesthetics, light, and glare in the project area?

The project sites are characterized by recreational land uses and are adjacent to single family residences. The visual landscape in Seward Park includes a mature forest in the northern two-thirds of the peninsula and a more developed, heavily used area at its southern end near the location for the project facilities. The setting includes paved parking lots, fenced tennis courts, and sections of Seward Park Road. Planted trees, shrubs, and maintained grasses surround the project area in both Seward Park and the UPARR replacement area. There are no city-designated viewpoints within the project area.

The project area has low levels of lighting and glare. The areas surrounding Parking Lot 1, Parking Lot 2, the tennis courts, and the UPARR replacement area are not illuminated. Lighting in these locations comes from sources outside the immediate area, including interior and exterior security lighting of building facilities within Seward Park, adjacent residences, street lights on roads near the park, and headlights from motor vehicles. Glare is minimal because reflective material in this area is limited. Sources of glare include lights from passing automobile or boat traffic, light reflected off building windows and automobile windshields, and sunlight reflected off Lake Washington.

6.2 How would the proposed project affect aesthetics, light, and glare?

6.2.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

6.2.1.1 During Construction

Aesthetics

No significant impacts to aesthetics are expected in Seward Park or the UPARR replacement area during construction.

Construction activities would temporarily alter the visual character of the project sites and surrounding areas, including the construction routes. The construction activities would be visible from residential and recreational areas within and adjacent to the project area, as well as from the water. The following conceptual renderings show typical construction conditions for both the Tennis Courts Alternative and Parking Lot Alternative in Seward Park. Some viewers may find the construction activities interesting, while others may find them aesthetically unpleasant.

Light and Glare

No significant lighting or glare impacts are expected in Seward Park or the UPARR replacement area during construction. New sources of light and glare may be introduced into the project area at Seward Park. Depending on the construction schedule and hours of daylight, artificial light may be necessary to illuminate the site during the morning and late afternoon/early evening. Additionally, the site may be illuminated at night for security purposes. Any artificial lighting would be aimed away from residential areas, roadways, and Lake Washington, use the minimum wattage necessary to provide the necessary illumination, and security lighting would be similar to existing security lighting for building facilities within the park.

6.2.1.2 After Construction

Aesthetics

No significant impacts to aesthetics are expected in Seward Park or the UPARR replacement area after construction. Several changes would be noticeable, including rebuilt tennis courts, rebuilt and resurfaced parking lots, new landscaping, a new natural looking shoreline, and several aboveground features such as air exhausts and access hatches. Most of these changes would improve or alter, but not degrade, the existing visual character.

Light and Glare

No lighting or glare impacts are expected in Seward Park or the UPARR replacement area after construction.

6.2.2 Indirect Impacts - Tennis Courts and Parking Lot Alternatives

No indirect impacts were identified for the Tennis Courts Alternative or the Parking Lot Alternative.

6.2.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

Conceptual rendering of construction of Tennis Courts Alternative

Conceptual rendering of construction of Parking Lot Alternative

6.3 What measures would reduce or eliminate potential aesthetics, light, and glare impacts?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to aesthetics, light, and glare during and after construction. The measures would include, but are not limited to, those listed below:

- For the Tennis Courts Alternative, replace trees along the shoreline with vegetation that frames view corridors to and across Lake Washington.
- Locate the majority of the facilities underground; keep aboveground features to a minimum and likely screen with vegetation.
- Screen construction equipment staging areas to buffer views of construction equipment and materials, where feasible.
- Re-vegetate areas disturbed during construction.
- Locate and aim any artificial lighting away from adjacent roadways, residential areas, and Lake Washington; use minimum wattage necessary to provide the necessary illumination.

6.4 Would the proposed project have any significant unavoidable adverse impacts on aesthetics, light, and glare?

No significant unavoidable adverse impacts on aesthetics, light, or glare are anticipated during or after construction.

7 Habitat, Wildlife, and Fish

7.1 What habitat is present in the project area?

Habitat in the project area can be broadly divided into six categories using terms from the Seward Park Vegetation Management Plan:

1. Greensward
2. Landscaped/Ornamental
3. Grasses
4. Hardscape
5. Shoreline
6. Aquatic

Greensward west side of tennis courts

These categories are shown on Figure 7-1 and Figure 7-2. Vegetation conditions observed within these categories in the Seward Park project area are described below.

Landscaped Grass between tennis courts and Parking Lot 2

Greensward: Features native tree species, primarily Douglas fir between 6 and 18 inches in diameter at breast height (dbh), standing over mowed and un-mowed grass areas.

Landscaped/Ornamental: Features regularly maintained ornamental plantings in Seward Park. For this EIS, the Landscaped/ Ornamental category has been further divided into the following habitat types because they occur in distinct areas:

- **Landscaped/Ornamental – Grass:** Features grasses that are regularly mowed and heavily used by park visitors.
- **Landscaped/Ornamental – Shrub:** Features shrubs, including ornamentals.
- **Landscaped/Ornamental – Trees:** Features trees that may or may not include an understory of shrubs.

Landscaped Shrub adjacent to tennis courts

Grasses: Features grass areas associated with native plants and is differentiated from Landscaped/ Ornamental Grass because these areas generally contain more native grasses and may or may not be regularly mowed. This category is a component of an oak prairie area that occurs along the south side of Seward Park, extending east of the project area.

Hardscape: Features impervious surfaces such as roads, trails/paths, parking lots, and the tennis courts and provides little habitat value.

Shoreline: Features the vegetated shoreline of Lake Washington. For this EIS, this category has been further divided into the following sections:

- **Tennis Court Shoreline Wall:** Features a rock and concrete wall 4 to 5 feet tall, which forms a vertical artificial bank. Vegetation is dominated by Himalayan blackberry on the top of the rock wall, which overhangs the water. Except for one one-seed Hawthorne shrub, no other overhanging vegetation exists. A line of Lombardy poplars is present between the wall and the tennis courts. No submerged or emergent aquatic plants are present (see Figure 7-3).
- **Beach Area:** Features a low, gently sloping, grassy shoreline and a small, narrow sandy beach. Vegetation is limited to grasses along the shoreline (see Figure 7-3).
- **Parking Lot 2 Shoreline Wall:** Features a wall 4 to 5 feet tall constructed of slabs of concrete. Vegetation in this section is limited to mowed grass with a stand of White poplar trees (see Figure 7-3).
- **UPARR Replacement Area Shoreline Armoring:** Features a low wall that is less than 3 feet tall and composed of concrete rubble. Vegetation consists of grass and non-native shrubs that overhang the water in certain stretches of the shoreline. Waterward of the wall is a sand and gravel cobble beach that, in areas, contains pieces of the low rubble wall that has failed.

Aquatic: Features the area below the Ordinary High Water Mark of Lake Washington including nearshore, open water, and deep-water habitats.

Tennis Court Shoreline Wall

Beach Area

Parking Lot 2 Shoreline Wall

UPARR Shoreline Armoring

Legend

- Potential Limits of Construction
- Tree to be Removed
- Tree to Remain

Habitat Type

- 1 - Hardscape
- 2a - Landscaped/Ornamental Grass
- 2b - Landscaped/Ornamental Shrub
- 2c - Landscaped/Ornamental Trees
- 3 - Shoreline
- 4 - Grass
- 5 - Greensward
- 6 - Aquatic

0 50 100 200 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

HABITAT AND TREES IMPACTS
TENNIS COURTS ALTERNATIVE

JANUARY 2013 | **FIGURE 7-1**

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Legend

- Potential Limits of Construction
- Tree to be Removed
- Tree to Remain

Habitat Type

- 1 - Hardscape
- 2a - Landscaped/Ornamental Grass
- 2b - Landscaped/Ornamental Shrub
- 2c - Landscaped/Ornamental Trees
- 3 - Shoreline
- 4 - Grass
- 5 - Greensward
- 6 - Aquatic

0 50 100 200 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

HABITAT AND TREES IMPACTS
PARKING LOT ALTERNATIVE

JANUARY 2013 | **FIGURE 7-2**

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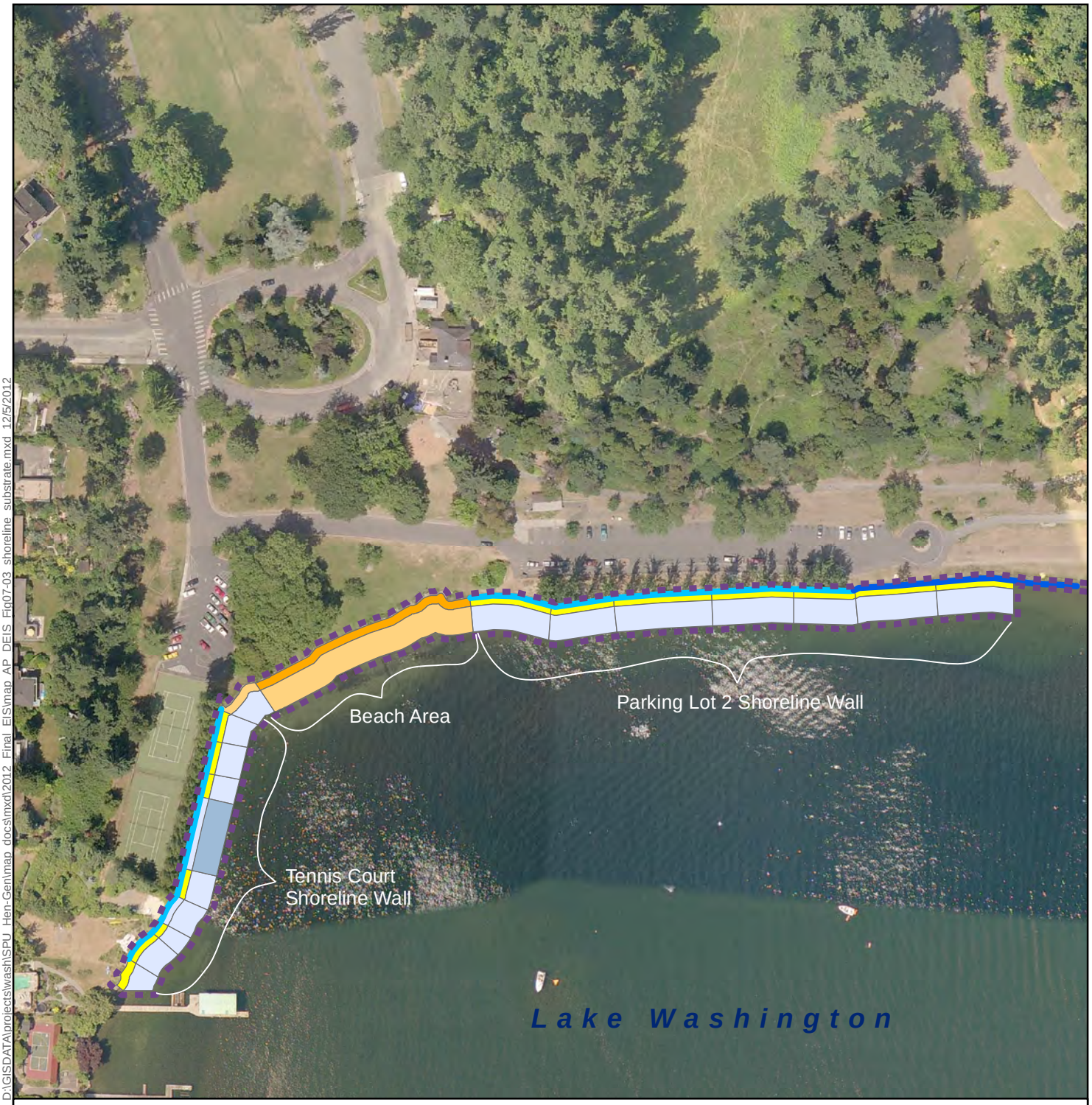

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Legend

Study Area

Shoreline Wall Height

4 - 5 ft

2.5 ft

Substrate Type

Cobble (4-8 in)

Small Cobble (2-3 in)

Gravel (0.3-1.0 in)

Sand & Gravel

Sand

0 50 100 200 Feet

N

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

AQUATIC HABITAT IN SEWARD PARK PROJECT AREA

JANUARY 2013

FIGURE 7-3

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7.1.1 What trees are present in the project area?

The project area lies outside of the native forest areas in Seward Park. Ninety-five trees inventoried in the Seward Park project area (Urban Forestry Services, Inc. 2011) are shown on Figure 7-1 and Figure 7-2 and the species are documented in Appendix D. The UPARR replacement area contains two large Black cottonwoods, some White poplars, and young Kwanza cherry trees.

7.1.2 Are there any special status plants or habitat in the project area?

No state- or federally-listed plant species under the ESA are known to occur within Seward Park or the UPARR replacement area (DNR NHP database 2011). The project areas provide little to no habitat suitable for listed plant species, are subject to regular disturbance, and do not reflect "native" habitats. Therefore, it is unlikely that listed plant species would be present in the project areas.

Seventeen of the trees inventoried in the Seward Park project area meet the City of Seattle definition of an exceptional tree (Urban Forestry Services, Inc. 2011). An exceptional tree is a tree that: 1) is designated as a heritage tree by the City of Seattle; or 2) is rare or exceptional by virtue of its size, species, condition, cultural/historic importance, age, and/or contribution as part of grove of trees (DPD Director's Rule 16-2008). These trees are listed in Appendix D and include one Douglas fir, one Lombardy poplar, one Wych elm, one Pacific madrone, four London plane trees, and nine White poplars.

The City of Seattle identifies the shoreline areas within the project area as a Fish and Wildlife Habitat Conservation Area (FWHCA) and the shoreline is considered a Shoreline Habitat Buffer under the City's Critical Areas Ordinance (SMC 25.09). Under City of Seattle code (SMC 25.09.020), FWHCAs are defined as areas mapped by the WDFW as Priority Habitats, corridors that connect mapped Priority Habitats, areas that provide specific habitat for species of local importance, riparian corridors, and shoreline habitat. The shoreline areas within the project area provide riparian cover and shoreline habitat that support priority species.

Some portions of the unarmored shoreline may meet regulatory definitions as wetlands and these areas, and their associated buffers, also would be regulated under the City of Seattle's critical areas ordinance.

Lake Washington is designated critical habitat for Chinook salmon and bull trout – two fish species listed as threatened under the ESA. Critical habitat is a specific area of a water body containing physical or biological features, also known as primary constituent elements, or PCEs, important to fish species that may occupy the water body. Lake Washington, in the project area, is used by juvenile salmon for rearing and out-migration to Puget Sound, but not for Chinook salmon spawning. Lake Washington provides two PCEs: 1) freshwater rearing sites with habitat features supporting juvenile Chinook salmon development, growth, and mobility; and 2) a freshwater migratory corridor free of obstruction with natural cover supporting juvenile and adult Chinook mobility and survival. Lake Washington provides seven PCEs for bull trout, including: 1) migratory corridor; 2) abundant food base; 3) complex shoreline environments;

4) water temperature; 5) natural hydrograph; 6) sufficient water quality and quantity; and 7) sufficiently low levels of non-native, predatory, interbreeding, or competing fish species.

7.2 What wildlife and fish species occur in the project area?

The project area provides limited functions for wildlife, compared to native, less managed habitats because it is less diverse, contains non-native plants, and is regularly disturbed. These conditions result in the area being less able to support the abundance and diversity of wildlife found in native or less disturbed habitats.

Large trees provide perch habitat for crows and hawks using the shoreline areas. Grass areas are used by waterfowl for foraging and resting. Waterfowl, water birds, and gulls use open water areas. Birds commonly seen in the project area include American robin, American crow, Steller's jay, dark-eyed junco, black-capped chickadee, song sparrow, house sparrow, osprey, bald eagle, European starling, and northern flicker and other woodpeckers. Appendix D provides a summary of birds observed in the Seward Park project area during a June 15, 2011 site visit. Mammals expected to use habitats found within the project area include those that are tolerant of human activity, such as raccoons and opossums. Red fox and coyote have been reported in residential areas of the City of Seattle and have been observed in numerous parks. Reptiles and amphibians are less likely to occur in landscaped habitats; however, red slider and painted turtle inhabit Lake Washington (WDFW 2009).

Approximately thirty species of fish are found in Lake Washington (Appendix D). The most common fish are prickly sculpin, longfin smelt, sockeye salmon, threespine stickleback, peamouth, redside shiner, yellow perch, rainbow trout, northern pikeminnow, largescale sucker, brown bullhead, cutthroat trout, smallmouth bass, largemouth bass, and common carp (Wydoski 1972). Redside shiner spawn along the shallow, gravelly shorelines that line portions of Andrews Bay and may use shallow water habitats near the project sites. Salmon typically use deep areas of Lake Washington as a migratory corridor, but studies have found that juvenile salmon use the shoreline and nearshore areas of Seward Park (Paron and Nelson 2001). Chinook salmon have shown preference for nearshore habitats, as smolts tend to prefer shorelines that have overhanging vegetation and small woody debris (Tabor*, et al*. 2006). Sockeye salmon are known to use shoreline habitat within Lake Washington to spawn. Juvenile salmon would also be expected to use the nearshore areas in the UPARR replacement area. Juveniles rear in shallow waters of the lake, but may also inhabit these areas to avoid predators such as prickly sculpin, largemouth bass, and smallmouth bass. Sculpins are present in shallow water habitats year-round (Kahler *et al.* 2000), while largemouth and smallmouth bass move into these areas when the lake's water temperature warms (Fresh *et al.* 2003).

7.2.1 Are there any special status wildlife or fish in the project vicinity?

Bald eagles are considered a "Species of Concern" at the federal level and as a "State Sensitive" species by the WDFW. The USFWS through the Bald and Golden Eagle Protection Act also regulates impacts to individual bald eagles. Under this rule, it is illegal to harass any eagle without specific permission from the USFWS. Bald eagles were removed from the ESA list in 2007. There are two known bald eagle nests within Seward Park (Seward Park South nest and Seward Park nest). The "Seward Park South" nest is located between one-quarter and one-half mile from the project sites (International Forestry Consultants, Inc. 2005, WDFW 2011a, 2011b) and is closer to the Parking Lot Alternative than it is to the Tennis Courts Alternative. The "Seward Park" nest is more than a half mile from either of the project sites. Birds from these nests may forage near the project area and trees within the project area may serve as perches for foraging birds. Bald eagles were observed near the project area during the June 15, 2011 site visit. Bald eagles also would likely use the UPARR replacement area for foraging, dispersal, and resting, and the large trees in that area would be appropriate as perch sites.

Federally listed fish species under the ESA known to occur in the project vicinity are Chinook salmon (threatened), Steelhead trout (threatened), and bull trout (threatened).

Chinook Salmon – Chinook salmon in Lake Washington are a composite of native/wild populations and hatchery-produced populations. Chinook fry and sub-yearling juveniles have the greatest potential to occur in the project area (Tabor *et al*. 2006). Chinook juveniles use and migrate past the project area in the late spring and early summer (Kahler *et al*. 2000). Adults are not known to use the lake's nearshore or shallow water habitats in the project area.

Steelhead – A single stock of winter-run steelhead occurs in Lake Washington. Steelhead are year-round residents in freshwater systems, including the Cedar River. Juvenile steelhead primarily use Lake Washington as part of the migratory corridor between Puget Sound and spawning habitat. Steelhead remain in the deeper waters of the lake and are not dependent on nearshore habitats for rearing or migration. Thus, steelhead are not likely to occur in the project area.

Bull Trout – Adult and sub-adult bull trout have been reported infrequently in Lake Washington, and bull trout may use Lake Washington for overwintering and adult foraging. No juvenile rearing or adult spawning in the lake has been observed. Furthermore, no distinct spawning populations are known to exist in Lake Washington (Paron and Nelson 2001). Thus, bull trout are not likely to occur in the project area.

7.3 How would the proposed project affect habitat, wildlife, and fish?

7.3.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

7.3.1.1 During Construction

No significant impacts to habitat, wildlife, or fish are expected in Seward Park or the UPARR replacement area during construction.

Construction would disturb 1.43 acres of upland habitat for the Tennis Courts Alternative and 1.36 acres for the Parking Lot Alternative in Seward Park. Table 7-1 quantifies the impact by habitat types. The disturbed habitat includes all areas within the limits of construction shown on Figure 7-1 and Figure 7-2. Vegetation disturbance would be limited to a grassy area near the northeast corner of the tennis courts for the CSO outfall replacement. In the UPARR replacement area, some lawn area as well as non-native invasive species would be removed. This impact is considered moderate because the disturbed areas are low-value, non-native habitat and would be re-vegetated with native species after construction.

Table 7-1. Seward Park Upland Habitat Disturbed for Construction

Upland Habitat Type	Area of Vegetation Disturbed			
	Tennis Courts Alternative		Parking Lot Alternative	
	(Sq ft)	(Acre)	(Sq ft)	(Acre)
Landscaped/Ornamental - Grass	40,800	0.93	41,400	0.95
Landscaped/Ornamental - Shrub	1,500	0.03	1,300	0.03
Landscaped/Ornamental - Trees	12,700	0.29	1,000	0.02
Shoreline	1,400	0.03	1,300	0.03
Grass	1,200	0.02	14,000	0.32
Greensward	5,000	0.11	400	0.01
Total	62,600	1.43	59,400	1.36

A total of 43 trees, including two “exceptional trees” would be removed in Seward Park for the Tennis Courts Alternative (see Figure 7-1) and 26 trees, including ten “exceptional trees,” for the Parking Lot Alternative (see Figure 7-2). A summary of the tree removal is shown in Table 7-2 and the specific trees are documented in Appendix D. The majority of the trees removed for the Tennis Courts Alternative would be a stand of Lombardy poplars along the water’s edge. The majority of the trees removed for the Parking Lot Alternative would be a stand of White poplars along the water’s edge. Tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy. Removal of the trees would diminish the tree canopy, which would reduce shade, perches, and nesting sites for wildlife, and wildlife may be expected to use habitats adjacent to the Tennis Courts Alternative more than the areas

adjacent to the Parking Lot Alternative since this area has been planted with many native species and because there is less human activity in this area. Approximately 0.3 acres of canopy would be removed for the Tennis Courts Alternative and 0.2 acres for the Parking Lot Alternative. Tree removal would affect less than 1 percent of the approximate 167 acres of tree canopy in Seward Park. No trees would be removed in the UPARR replacement area.

Habitats within the limits of construction would be unavailable to wildlife and fish during construction. Wildlife and fish in adjacent areas may be disturbed by construction activities and noise and may temporarily move to other areas of Seward Park, Lake Washington Boulevard Park, or the lake shoreline. This impact is short-term and nonsignificant because wildlife and fish likely would return to the project area once construction is complete and because, in Seward Park, the impacted shoreline habitat is only about 3 percent of the shoreline habitat.

Table 7-2. Seward Park Trees Removed for Construction

Tree Type	Number of Trees Removed	
	Tennis Courts Alternative	Parking Lot Alternative
Lombardy poplar	21	n/a
White poplar	n/a	16
Douglas fir	11	n/a
Kwanzan cherry	2	6
London plane	n/a	3
Tulip tree	n/a	1
European white birch	2	n/a
Oregon ash	1	n/a
Common hawthorn	1	n/a
Incense cedar	1	n/a
Deodar cedar	1	n/a
Fruiting apple	1	n/a
Scots pine	1	n/a
Plum	1	n/a
Total	43	26

Construction-related decreases in water quality, if not controlled or contained, could impact aquatic habitat and fish species, including temporarily displacing organisms or having direct toxic impacts on aquatic organisms. Following are sources of potential decreases in water quality; however, the proposed project would include erosion and sediment controls, spill control and prevention, and other best management practices, such as silt curtains to avoid uncontrolled discharges that could affect water quality:

1. Runoff from construction areas carrying sediment (thus contributing to increased turbidity) and other pollutants into the lake.
2. Oil, solvents, and other chemical spills flowing into Lake Washington.
3. Soil contaminants (e.g., petroleum, metals, semi-volatile, and volatile organic compounds) from previous CSO discharges disturbed during the outfall replacement and released into the lake.
4. Disturbance of lake bottom sediments during the outfall replacement, thus contributing to increased turbidity.

Some benthic aquatic invertebrates could be buried by placement of materials on the bottom of Lake Washington, such as gravel, rocks, boulders, and large woody debris. Mobile organisms, such as fish and invertebrates, could move away from the disturbed area, and would likely return to the area after construction is complete. The amount of area that would be covered is a small portion of the lake bed and benthic invertebrates would recolonize from undisturbed areas fairly rapidly.

The proposed project is not anticipated to adversely impact nesting activity by the bald eagles because the nests are highly urbanized, the birds at the two nests are accustomed to increased noise, and the closest nest is located more than a quarter mile from the project area.

7.3.1.2 After Construction

No significant impacts to habitat, wildlife, and fish are expected in Seward Park or the UPARR replacement area after construction. The aquatic food web that supports fish and wildlife in the area would be improved by better water quality resulting from reduced occurrences of CSOs into Lake Washington. Shoreline habitats would be enhanced by the incorporation of native plants, overhanging plants that provide shade and cover, improved shallow water habitats, such as the addition of large woody debris or other features that would provide cover for fish, and the removal of invasive, non-native plants. Final designs would be developed that would favor continued survival of juvenile salmon species and discourage use of the area by non-native predatory fish species such as bass. A re-vegetation plan would be implemented; however, trees planted as part of the plan would need to grow for many years before the wildlife benefits would be restored. These improvements may encourage increased use by wildlife and fish.

7.3.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

The proposed project would improve habitat and animal populations over time as water quality continues to improve and the re-vegetation reaches maturity and provides improved habitat.

7.3.3 Direct and Indirect Impacts - No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

Without building the CSO storage tank, a long-term average of more than one untreated combined sewage and stormwater discharge from Basin 44 per year likely would occur when the sewer system's capacity is exceeded. This would continue the current negative impact on habitat, wildlife, and fish that live in or migrate through Lake Washington.

7.4 What measures would reduce or eliminate potential impacts to habitat, wildlife, and fish?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to habitat, wildlife, and fish during and after construction. The measures would include, but are not limited to, those listed below:

- Limit work in Lake Washington during specific seasonal windows (July 16 – December 31) to avoid adverse impacts to fish.
- Limit construction disturbances to the minimum area needed, the shortest duration, and the greatest distance away from water bodies, as practicable.
- Develop and implement a Construction Stormwater and Erosion Control Plan (CSECP), including a Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention and Countermeasures Plan (SPCP), to reduce the potential for sediment, waste materials, construction-related leaks and spills to contaminate surface, ground, and runoff water.
- Implement measures to contain turbidity (e.g., sheeted trenches, silt curtains) for in-water work related to the CSO pipe replacement.
- Take appropriate precautions when storing equipment, hazardous fuels, and other materials used in construction of the project.
- Provide an emergency response plan in accordance with the SPU spill prevention plan and know proper hazardous material storage, handling, and emergency procedures, including spill notification and response requirements.
- Implement appropriate BMPs from the City of Seattle's Stormwater Code SMC 22.800 – 22.808, Director's Rule: 2009-004 SPU/16-2009 DPD, and Volume 2 Construction Stormwater Control Technical Requirements Manual to control erosion and sediment transport from the project site during construction.
- Provide water quality treatment as necessary to improve the quality of stormwater flows from adjacent impervious surfaces.

- Develop and implement a revegetation plan in accordance with the Seward Park Vegetation Management Plan.

7.5 Would the proposed project have significant unavoidable adverse impacts on habitat, wildlife, or fish?

No significant unavoidable adverse impacts on habitat, wildlife, or fish are anticipated during or after construction.

8 Transportation

8.1 What areas would experience increased traffic due to project activities?

Construction and operations-related traffic likely would access Seward Park via Rainier Avenue South. For simplicity, the route is called the "construction route." The increased traffic between Rainier Avenue South and Seward Park is the focus of the transportation analysis because that area has smaller streets where increased traffic would be more noticeable. Rainier Avenue South is a major arterial and, thus, the increased traffic on it would not be perceptible (less than a one percent increase).

Construction Route 1 Access – looking west

Two potential construction routes were identified based on trucks being able to travel safely and effectively and causing the least impact to local streets. Figure 8-1 shows the potential construction routes. Route 1 would access Seward Park via South Orcas Street and Lake Washington Boulevard South. Route 2 would access Seward Park via South Genesee Street and Lake Washington Boulevard South. Both construction routes would work for either the Tennis Courts Alternative or the Parking Lot Alternative, because the project sites are close together. Streets south of the Tennis Courts and Parking Lot Alternatives project areas were not considered because most of these streets are too narrow with on-street parking.

Construction Route 2 Access – looking northwest

A portion of Construction Route 2 is anticipated to be used for construction access to the UPARR replacement area.

8.2 What are existing traffic conditions in the impacted areas?

The level of service (LOS) at key intersections was used to assess existing traffic conditions, as well as to estimate traffic conditions during construction. Letters (from A to F) designate each service level, with LOS A representing the best operating conditions and LOS F the worst (TRB 2000). LOS at intersections is measured in terms of the time delay to vehicles resulting from traffic control at intersections. Figure 8-1 shows the intersections included in the study. The modeling results for existing conditions show that the intersections along the potential construction routes currently operate at LOS C or better (see Appendix D for additional detail).

Levels of Service Definitions

LOS A – Motorists experience little or no delays and traffic levels are well below roadway capacity.

LOS B – Motorists experience no significant delays and traffic operates reasonably unimpeded at average speeds.

LOS C – Motorists experience some delays and queues may occur; traffic operates at a stable level.

LOS D – Motorists experience noticeable congestion and speeds are reduced.

LOS E – Motorists experience significant delays and traffic progression is poor.

LOS F – Motorists experience very long delays and traffic levels exceed roadway capacity.

8.3 What public transit and bicyling options exist in the impacted area?

Seattle Metro Routes 34 and 39 serve the Seward Park area. Buses on these routes travel along 50th Avenue South, South Dawson Street, Seward Park Avenue South, South Orcas Street, and Wilson Avenue South. Farther west, Metro Routes 7 and 9 follow Rainier Avenue South.

In the Seattle Bicycling Guide Map, the Seattle Department of Transportation identifies Lake Washington Boulevard South as a “higher traffic street” with no on-street bicycle lane (SDOT 2011). However, Lake Washington Boulevard South is popular with bicyclists. During designated Sundays from May through September, Seattle Parks and Cascade Bicycle Club sponsor “Bicycle Sundays.” On these Sundays, Lake Washington Boulevard South is closed to motor vehicles from south of Mount Baker Beach to Seward Park’s entrance (Parks 2011c). The intent of the program is to provide a bicycle- and pedestrian-friendly recreation corridor.

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Legend

- Potential Project Areas
- Study Intersection
- Potential Construction Route 1
- Potential Construction Route 2

0 375 750 1,500 Feet

N

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

POTENTIAL CONSTRUCTION ROUTES

JANUARY 2013 | **FIGURE 8-1**

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8.4 How would the proposed project affect transportation?

8.4.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

8.4.1.1 During Construction

No significant impacts to transportation are expected near Seward Park or the UPARR replacement area during construction.

Temporary increases in traffic volume and delay could occur on some streets and intersections in the project vicinity due to transporting equipment and materials to and from the site and construction worker commutes. Additionally, park visitors who normally walk to Seward Park might be deterred by the construction and drive to another park, thus increasing traffic. Based on traffic modeling, the LOS would remain at C or better during construction, except for one location (see Appendix D). That exception would occur at the intersection of South Genesee Street and 50th Avenue South where the maximum increase in delay would be 3.5 seconds per vehicle and the LOS would decrease to D. Most drivers would not even perceive this short additional delay.

Temporary damage to roads by the large construction vehicles along the construction route, including the entrance to Seward Park, could occur. A conditions assessment would be performed on the construction route prior to the proposed project so roads could be restored to their prior condition or better after construction is complete.

Bicyclists could be impacted by the presence of large construction trucks, in addition to the traffic and delay impacts discussed above. Trucks would not be present during the entire construction period and bicyclists would be notified of alternate routes such as the neighborhood streets and the Lake Washington Boulevard Path.

There are no anticipated impacts to buses or bus routes, aside from the general traffic and delay impacts discussed above, because no roads would be closed during construction and no bus stops would be affected.

8.4.1.2 After Construction

No significant impacts to transportation are expected near Seward Park or the UPARR replacement area after construction.

Vehicle trips to the project sites would be necessary. The most common visits to Seward Park by SPU maintenance staff would occur quarterly and after a CSO event and would typically require only one vehicle. In the first year or so of use, SPU staff may elect to visit the site periodically during or after a CSO event, which would also require only one vehicle. A watering truck would visit Seward Park and the UPARR replacement area weekly throughout the summer to water new plants during their establishment period, which is a minimum of three years. The frequency and number of vehicles represent a very small portion of the overall traffic in the project vicinity.

8.4.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

A moderate and temporary, indirect impact would result from traffic and altered traffic patterns along alternate routes. Some vehicle and bicycle traffic might use alternate routes during construction to avoid traffic associated with the proposed project.

8.4.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

8.5 What measures would reduce or eliminate potential impacts associated with transportation?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts associated with transportation during and after construction. The measures would include, but are not limited to, those listed below:

- Schedule the construction of project elements so they do not overlap, when possible, to reduce the number of vehicle trips occurring at one time.
- Provide information at Seward Park and on SPU and Seattle Parks websites regarding alternate routes drivers and bicyclists could use to avoid construction traffic.
- Perform a condition assessment on the construction route prior to the proposed project so roads could be restored to their prior condition or better.

8.6 Would the proposed project have any significant unavoidable adverse impacts associated with transportation?

No significant unavoidable adverse impacts associated with transportation are anticipated during or after construction.

9 Water Resources

9.1 What surface water resources exist in the project area?

Lake Washington is the only surface water body in the project area. Lake Washington is in a deep, narrow glacial trough with steeply sloping sides and covers approximately 21,500 acres. It is 22 miles long, with an average width of approximately 1.5 miles and a circumference of 50 miles. Lake Washington is part of Ecology's Water Resource Inventory Area 8 and most of the shoreline is developed. The lake volume is approximately 2,350,000 acre-feet, with an average depth of 108 feet and a maximum depth of 214 feet (King County 2011).

The level of Lake Washington dropped approximately 9 feet in 1916 due to construction of the Hiram M. Chittenden Locks and the Lake Washington Ship Canal. Surface water levels of Lake Washington are currently managed by the U.S. Army Corps of Engineers (Corps), which maintains the lake between 16.8 feet in the winter and 18.6 feet in the summer (City of Seattle Datum, NAVD 88).

The main sources of fresh water for Lake Washington are the Cedar and Sammamish Rivers. Numerous small creeks and surface runoff also contribute fresh water to the lake. Lake Washington drains via the Lake Washington Ship Canal, Lake Union, and the Hiram M. Chittenden Locks to Puget Sound.

Water quality regulations applicable to Lake Washington include the Clean Water Act (CWA) (33 U.S. Code [USC] 1251-1376), which requires that all states restore their waters to be "fishable and swimmable." Washington's Water Quality Assessment, which lists the water quality status for water bodies in the state, meets the federal requirements under Sections 303(d) and 305(b) of the CWA. Washington's water quality standards are documented in WAC 173-201A and are based on designated and potential uses of water bodies.

The portion of Lake Washington in the project area is not designated as impaired by the 303(d) list and does not exceed established water quality standards for lake class waters (Ecology 2008). However, untreated stormwater runoff and periodic CSO events likely cause localized changes in water quality. A recent study of SPU's CSO discharges found conventional contaminants (e.g., fecal coliform, total suspended solids, biochemical oxygen demand), metals, and semi-volatile and volatile organic compounds present in the CSO discharges (SPU 2010). An average of 17 CSO discharges per year has occurred in Basin 44, from 1998 through 2011 (HDR 2012b). The runoff from Parking Lots 1 and 2 does not currently receive stormwater treatment.

9.2 What groundwater resources exist in the project area?

Groundwater from adjacent upland areas generally flows toward Lake Washington. Groundwater levels in and near the project area generally coincide with the lake level (Shannon & Wilson, Inc. 2011). Borings completed for this project were drilled to depths of 65 feet and did not encounter confined aquifers that are under pressure. The primary beneficial use of groundwater within the project area is as a source of recharge for Lake Washington.

9.3 How would the proposed project affect surface water and groundwater?

9.3.1 Direct Impacts - Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

9.3.1.1 During Construction

No significant impacts to surface water or groundwater are expected in Seward Park or the UPARR replacement area during construction.

If uncontrolled, surface water runoff from construction areas could potentially carry sediment and other pollutants into Lake Washington. Oil, solvents, and other chemical spills could occur within construction limits, and, if of sufficient quantity and not contained, could flow into Lake Washington or seep into the ground and perhaps reach groundwater. If disturbed during outfall replacement, soil contaminants (e.g., petroleum, metals, semi-volatile and volatile organic compounds) associated with previous CSO discharges from the existing outfall could potentially be released into lake water. If not controlled or contained, these occurrences could locally affect surface water or groundwater quality, or both. The proposed project would include erosion and sediment controls, spill control and prevention, and other best management practices, such as silt curtains to avoid uncontrolled discharges that could affect water quality.

Groundwater likely would be encountered during construction due to the excavation depth of greater than 30 feet for installation of the CSO storage tank. Some temporary, localized lowering of the groundwater table in the immediate vicinity of the storage tank would be expected during construction, due to necessary dewatering operations either inside or outside the excavation, or both. This impact is considered minor because standard construction methods would be implemented to limit the need for extensive dewatering and because dewatering water would be settled and discharged to either Lake Washington or the combined sewer system.

9.3.1.2 After Construction

A significant improvement to surface water is expected in Seward Park after construction because of the reduction in number and volume of CSO events. No significant impacts to surface water or groundwater are expected in the UPARR replacement area after construction.

The number of CSO events from Basin 44 would be reduced to a long-term average of no more than one event per year, and the volume would be reduced as well. Untreated stormwater that is currently discharged into Lake Washington from Parking Lot 1 for the Tennis Courts Alternative, or Parking Lot 2 and the access road to it for the Parking Lot Alternative, would receive treatment. The stormwater likely would be managed using Natural Drainage Systems techniques to the maximum extent feasible and treated using filter vaults. These impacts would have a significant, positive impact on water quality.

Significant permanent, post-construction impacts to the groundwater regime (level, flow, etc.) are not anticipated. At the end of construction, any dewatering systems would be shut down, and the groundwater table would be expected to approximately resume its pre-construction level.

9.3.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

After project construction, the Tennis Courts Alternative and the Parking Lot Alternative would benefit the ecosystem over time as pollutant loading in the lake continued to decrease and water quality improved.

9.3.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

Without building the CSO storage tank, a long-term average of more than one untreated combined sewage and stormwater discharge from Basin 44 per year likely would occur when the sewer system's capacity was exceeded. This would continue the current negative impact on water quality in Lake Washington, as well as violate federal and state law.

9.4 What measures would reduce or eliminate potential impacts to surface water and groundwater?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to surface water and groundwater during and after construction. The measures would include, but are not limited to, those listed below:

- Limit construction disturbances to the minimum area needed, the shortest duration, and the farthest distance away from water bodies, as practicable.
- During construction, implement Best Management Practices (BMPs), as identified in the City of Seattle's Stormwater Code SMC 22.800 – 22.808, Director's Rule: 2009-004 SPU/16-2009 DPD, and Volume 2 Construction Stormwater Control Technical Requirements Manual to control erosion and sediment transport from the project site.

Typical measures include silt fencing, plastic sheeting, and straw wattles to prevent sediment discharge.

- Develop and implement a Construction Stormwater and Erosion Control Plan (CSECP), including a Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention and Countermeasures Plan (SPCP) to reduce the potential for sediment, waste materials, construction-related leaks and spills to contaminate surface, ground, and runoff water.
- Provide water quality treatment as necessary to improve the quality of intercepted stormwater flows from adjacent impervious surfaces.
- Re-vegetate disturbed shorelines.

9.5 Would the proposed project have any significant unavoidable adverse impacts on water resources?

No significant unavoidable adverse impacts on water resources are anticipated during or after construction.

10 Air Quality, Odor, and Climate Change

10.1 What are the existing air quality and odor conditions in the project area?

The Washington Department of Ecology and the Puget Sound Clean Air Agency (PSCAA) have adopted state and local air quality standards that are equivalent to, or more stringent, than the National Ambient Air Quality Standards (NAAQS). Air quality data indicate that concentrations have been below the NAAQS for all criteria pollutants monitored in the project area. Table 10-1 shows a summary of air quality data at the Beacon Hill Reservoir monitor from 2004 to 2008 (PSCAA 2009).

Table 10-1. Ambient Pollutant Concentrations at Beacon Hill Reservoir Monitor

Pollutant	Parameter	Puget Sound Air Quality Standard	Data Year				
			2004	2005	2006	2007	2008
Nitrogen dioxide (NO_2)	Annual average (ppm)	0.053	0.018	0.018	0.018	ND	ND
Carbon monoxide (CO)	8-hour average (ppm)	9	1.8	1.9	1.5	1.0	0.9
	1-hour average (ppm)	35	2.7	2.7	2.3	1.4	1.4
Ozone	8-hour average (ppm)	0.075	0.057	0.049	ND	0.05	0.052
Sulfur dioxide (SO_2)	Annual average (ppm)	0.02	0.003	0.004	ND	0.002	0.001
	24-hour average (ppm)	0.1	0.019	0.014	ND	0.007	0.011
	1-hour average (ppm)	0.4	0.06	0.044	ND	0.039	0.073
Particulate matter (PM_{10})	24-hour average ($\mu g/m^3$)	150	33	30	42	ND	ND
Particulate matter ($PM_{2.5}$)	Annual arithmetic mean ($\mu g/m^3$)	15	8.51	7.95	7.94	7.19	7.25
	24-hour average ($\mu g/m^3$)	35	32.6	27.6	25.7	29.4	20.5

PPM = parts per million
PM_{10} = particulate matter 10 micrometers or less
$PM_{2.5}$ = particulate matter 2.5 micrometers or less
ND = No Data

Odors can be generated from wastewater conveyed in a pipeline or stored in a pump station wet well or storage tank. Odors can become a problem if they are released into the environment at maintenance holes, access points, or other structures.

There are no numerical standards for odors; however, per PSCAA Regulation I, Section 9.11, it is illegal to injure human health, plant or animal life, or property, or unreasonably interfere with enjoyment of life and property. Enforcement actions can be taken if odors exceed a certain qualitative level.

SPU manages infrastructure to minimize odor emissions and monitors odor complaints to ensure compliance with local and state odor regulations. In 2007, SPU issued an informal, odor-related study of its wastewater system (SPU 2007). The study reviewed 676 odor complaints received between 1990 and 2005. Only two odor complaints were caused by SPU CSO facilities.

10.2 What are "climate change" and "climate variability," and how would they affect the project area?

"Climate change" is a significant change in measures of climate (such as temperature, rain, snow, and wind) for an extended period, typically decades or longer (USEPA 2009). The causes of climate change are both natural and human-made. "Climate variability" is similar to climate change, except that it occurs on shorter time scales.

Climate change and climate variability have implications for temperature, sea level, snow and ice, and rainfall in the project area. Table 10-2 shows the implications that have been documented in the past and that are predicted for the future in the Northwest.

Table 10-2. Implications of Climate Change and Climate Variability

Climate Element	Climate Change[1]	Climate Variability[2]	
		El Niño / Warm Phase PDO[3]	La Niña / Cool Phase PDO[3]
Temperature:	Increase average temperatures Increase extreme temperatures	Increase temperature in winter	Decrease temperature in winter
Sea Level:	Increase	n/a	n/a
Snow and Ice:	Decrease	Decrease	Increase
Rainfall:	Increase average rainfall Increase rainfall in winter Decrease rainfall in summer Increase extreme rainfall All of above less dominate than effects of climate variability	Decrease rainfall in winter	Increase rainfall in winter

[1] Source: CIG 2011 a
[2] Source: CIG 2011 b
[3] PDO is Pacific Decadal Oscillation

10.3 How would the proposed project affect air quality, odor, and climate change?

10.3.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise. Park facilities, such as the children's playground, are closer to the Parking Lot Alternative than the Tennis Courts Alternative. Nearby residences on Seward Park Avenue South and Lakeshore Drive South are approximately 300 feet closer to the Tennis Courts Alternative than the Parking Lot Alternative. Therefore, park users would be more impacted by any localized air quality and odor issues for the Parking Lot Alternative (compared to the Tennis Courts Alternative) and nearby residents would be more impacted by the Tennis Courts Alternative (compared to the Parking Lot Alternative).

10.3.1.1 During Construction

No significant impacts to air quality, odor, or climate change are expected to occur in Seward Park or the UPARR replacement area during construction.

Air Quality

No significant impacts to air quality are expected in Seward Park or the UPARR replacement area during construction.

Dust generated from surface disturbances or by wind action is termed **"fugitive dust"** because it is not discharged to the atmosphere in a confined flow stream. Common sources of fugitive dust include heavy construction operation, storage piles, and unpaved roads.

Particulate matter, in the form of fugitive dust, would be generated by construction activities such as excavation, grading, and demolition of structures and pavement. Based on a United States Environmental Protection Agency (USEPA) formula that relates fugitive dust emissions to the area of impact and duration of construction activity, the Seward Park components could result in approximately one half ton of fugitive dust generated per month of excavation and clearing activity[1]. The actual volume of fugitive dust would be highly variable and would depend on many factors, including soil moisture content, wind speeds, and the duration of the clearing activity, among other considerations. The UPARR replacement area that would be cleared is much smaller; therefore, the likelihood that fugitive dust would be generated in substantial amounts is even less. It is unlikely that fugitive dust emissions would be generated in substantial amounts given the moisture conditions in the Puget Sound region.

Carbon dioxide and nitrogen dioxide would be generated by the exhaust emissions from heavy trucks and construction equipment. The emissions would be temporary, limited to the immediate area surrounding the construction site, and would contribute a small amount to the total emissions in the vicinity compared with the automobile traffic because construction traffic would be less than one percent of the total traffic in the project vicinity.

[1] Air quality impacts of fugitive dust were estimated using USEPA's AP-42, Compilation of Air Pollutant Emission Factors (USEPA 2011). AP-42 emission factors estimate fugitive dust emissions based on the area of impact and the duration of the construction activity. For fugitive dust due to construction, emissions were estimated using the following equation: *PM Emissions = 1.2 tons PM/acre/month of activity.*

Odor

Construction odors such as those from diesel exhaust or from laying asphalt pavement might be noticeable by park users or nearby residents. While odors could become relatively intense at times, a limited number of construction vehicles would operate at any one time and the amount of asphalt pavement required for the proposed project would be limited (approximately 60,000 square feet).

Climate Change

Greenhouse gases would be produced, which could impact climate change. Greenhouse gas production would primarily be associated with emissions from construction equipment and commuter vehicles, as well as embodied energy. "Embodied energy" is the energy necessary for the entire product lifecycle beginning with raw material extraction and ending with deconstruction or decomposition. The anticipated amount of greenhouse gases for the work in Seward Park is approximately 38,000 metric tons equivalent carbon dioxide for the Tennis Courts Alternative and 39,000 metric tons equivalent carbon dioxide for the Parking Lot Alternative, approximately 95 percent of which is from embodied energy. Summaries of the lifetime greenhouse gas emissions are provided in Appendix D. The greenhouse gas emissions for the UPARR replacement area were not calculated but are anticipated to be minor since no structures would be built, the number of vehicles and equipment involved is small, and the construction period would be only 4 to 6 weeks. This impact is considered minor because the amount of greenhouse gas emissions anticipated by the proposed project is far less than 1 percent of the estimated greenhouse gas emissions in Seattle for the year 2008 (City of Seattle 2008).

10.3.1.2 After Construction

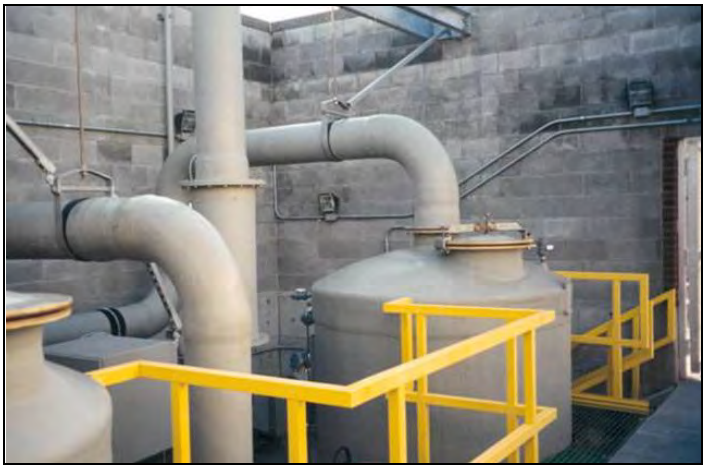
No significant impacts to air quality, odor, or climate change are expected to occur in Seward Park or the UPARR replacement area after construction.

Air Quality

No direct impacts related to air quality are anticipated after construction because no activities would occur that would generate fugitive dust emissions.

Odor

Odors could be generated during operation of the proposed project at the diversion weir (due to turbulence) or the CSO storage tank (due to the increased detention time). The level of odor emissions would depend on the wastewater characteristics (dissolved sulfide, dissolved oxygen, pH, temperature, etc.), wastewater



Typical odor control equipment for CSO storage tank

hydraulics, and facility operation (cleaning, etc.). The level of odor emissions likely will be dampened because the sewage would be diluted with stormwater and the tank would have an automated cleaning system, be maintained at slightly negative pressure to minimize fugitive odor emissions, and include an odor control system.

Climate Change

Greenhouse gases would be emitted by SPU maintenance staff vehicles when they visit the CSO storage tank facility. The associated estimated annual greenhouse gas emissions are approximately 0.06 metric tons equivalent carbon dioxide, for either alternative. This impact is considered minor because the amount of greenhouse gas emissions anticipated for operation of the proposed project is far less than 1 percent of the estimated greenhouse gas emissions in Seattle in 2008 (City of Seattle 2008).

10.3.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

There may be an increase in park use at other parks, if Seward Park users avoid the project area due to air quality or odor issues. Project-related construction truck traffic could lead some drivers along the construction route to use alternate routes to avoid potential delays. Using alternate routes could lead to indirect effects in two ways: alternate routes could be longer and, therefore, cause increased emissions, and alternate routes would cause additional emissions in areas outside of the proposed construction routes.

10.3.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

10.4 How would climate change and climate variability affect the proposed project?

Climate change and climate variability have the potential to impact the proposed project due to increases in sea level and rainfall.

Sea level rise associated with climate change would range from 6 inches to 50 inches in Puget Sound, with the mostly likely rise of 34 inches by 2100 (UW and Ecology 2008). Sea level rise theoretically could impact the proposed project since the project sites are located adjacent to Lake Washington, which is hydrologically connected to Puget Sound and the Pacific Ocean. However, sea level rise is not anticipated to impact the proposed project because the Corps maintains Lake Washington at levels that are lower than the elevation of the project sites.

Climate change and some aspects of climate variability (La Niña and cool phase PDO) are expected to increase rainfall in the winter. Increased rainfall likely means an increase in stormwater runoff from impervious surfaces in the basin. The capacity of the CSO storage tank has been designed to accommodate a six percent increase in precipitation and associated stormwater over the current levels. Six percent is within the range of precipitation increase predicted by analyses for the Pacific Northwest (MGS 2003). Therefore, the CSO storage tank has been designed to address the changes expected from climate change and climate variability.

10.5 What measures would reduce or eliminate potential impacts to air quality, odor, or climate change?

For both the Tennis Courts Alternative and the Parking Lot Alternative, measures would be taken to help reduce or eliminate potential impacts to air quality, odor, and climate change during and after construction. The measures would include, but are not limited to, those listed below:

- Follow best management practices for controlling fugitive dust.
- Minimize odors by incorporating odor control and automated flushing systems into the design of the CSO storage tank, minimizing the time combined sewage is stored in the tank, maintaining the air space in the tank at slightly negative pressure, providing odor control, and scheduling maintenance of the odor control system during cold temperatures and periods of low flow.
- Encourage practices that reduce greenhouse gas emissions such as limiting idling of equipment, encouraging construction workers to carpool, and buying products manufactured/produced locally.

10.6 Would the proposed project have any significant unavoidable adverse impacts associated with air quality, odor, or climate change?

No significant unavoidable adverse impacts associated with air quality, odor, or climate change are anticipated during or after construction.

11 Geology

11.1 What are the existing geologic conditions in the project area?

Seattle is located in the central portion of a geologic area called the "Puget Lowland," a north/south-orientated, elongated, topographic depression that is bordered by the Cascade Mountains to the east and the Olympic Mountains to the west. The project area is located in highly-weathered-to-fresh, low-strength, sedimentary sandstone, and mudstone containing marine fossils and shells. Bedrock outcrops occur from the middle of Seward Park and extend southward (Shannon & Wilson, Inc. 2011).

There are no steep slopes within the limits of construction. However, the City's GIS information regarding environmental critical areas shows steep slope areas approximately 75 feet to the west of the CSO storage tank site for the Tennis Courts Alternative and approximately 150 feet to the north of the CSO storage tank site for the Parking Lot Alternative (DPD 2011).

The project area is within the Seattle Fault zone, which extends for approximately 7 to 8 miles from Beer Sheva Park on the south to Leschi Park on the north along the western shoreline of Lake Washington. The fault extends from the Olympic Mountains on the west to the foothills of the Cascades on the east. Preliminary estimates of seismic event recurrence rates for the Seattle Fault are on the order of 3,000 to 5,000 years. Earthquake magnitudes of up to 7.7 have been estimated for this fault (Shannon & Wilson, Inc. 2011).

Geotechnical borings conducted in Seward Park identified 0.5 to 10 feet of medium-stiff clay fill overlaying completely-to-highly-weathered sedimentary bedrock (sandstone and siltstone), becoming slightly-weathered-to-fresh with increasing depth. Based on the geotechnical findings, the CSO storage tank at either alternative site would be constructed in bedrock, which likely would be encountered from 3 to 12 feet below the ground surface for the Tennis Courts Alternative and from 2 to 10 feet below the ground surface for the Parking Lot Alternative.

Geotechnical borings in the UPARR replacement area found very-soft-to-soft silt and clay soil (lake deposit) between 4 and 7 feet in depth underlain by loose-to-very-dense silty sand and stiff-to-hard silt, sandy silt, and sandy clay to depths of 32 to 37 feet. Sandstone or siltstone was encountered below the soil deposits and extended to the bottom of the borings approximately 61 feet below ground surface.

The nearshore slope along the Seward Park project area is approximately 2.2 percent measured as the average of the two locations being considered for shoreline treatment work.

Wind waves were used in the project design criteria for the shoreline treatment because wind-induced waves are larger than vessel-induced waves at the Seward Park shoreline. The greatest percentage of wind-induced waves comes from the south but the measured wind speed rarely exceeds 15 miles per hour. The conceptual 100-year wave height is 2.8 feet.

Bathymetric and wave data were not collected for the UPARR replacement area since the upland landscaping enhancements would not include in-water work.

11.2 How would the proposed project affect geology?

11.2.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

11.2.1.1 During Construction

No significant impacts to geology in Seward Park or the UPARR replacement area are anticipated during construction.

Grading and excavation would disturb native, in situ soil and bedrock conditions during construction. Approximately 44,400 cubic yards of soil and rock would be excavated for construction of the Seward Park project components and approximately 3,700 cubic yards of imported fill would be used. Imported fill will be required due to the general unsuitability of the site soils for structural fill. Structural fill will be used to backfill around the tank structure wall and in other locations. For the UPARR replacement area, approximately 6 cubic yards of soil would be cleared in preparation for the new plantings and approximately 6 cubic yards of compost and 3 cubic yards of bark mulch would be added. The excavated soil would be disposed of at an appropriate, permitted, offsite disposal facility.

Erosion and surface water runoff could increase because of grading and excavation, which would remove vegetative cover or pavement and expose soil. Chapter 9 Water Resources discusses the potential impacts of erosion and surface water runoff on water quality in Lake Washington. The proposed project would include erosion and sediment controls and other best management practices to avoid uncontrolled discharges that could affect water quality.

Hazardous materials and waste such as oil, grease, and fuels used for construction equipment potentially could be spilled or released causing localized contamination of soil. The potential for these contaminants to impact the soil would depend on the nature and quantity of the spill, the time between the spill and the clean-up, and the geology of the area. The proposed project would include spill control and prevention and other best management practices to avoid uncontrolled discharges that would affect soil.

Vibration and settlement could occur from shoring installation, excavation, equipment traffic, and other general construction-related vibrations. Slope instability could occur due to excavation near existing slopes. Ground settlement also could potentially occur from groundwater de-watering during construction. The potential for observed or measured vibration (and any associated effects, such as settlement) depends on several factors, including the subsurface

conditions and the distance from the source to the receiver. It is likely that the potential for vibration and effects on the nearby residences would be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Similarly, it is likely that the potential for vibration and effects on the nearby park facilities would be higher for the Parking Lot Alternative than for the Tennis Courts Alternative.

SPU does not anticipate that vibration, blasting, or other construction-related activities would damage nearby homes or sewers because construction best management practices would be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage would be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

Shoring techniques would be used that do not produce significant vibration and the design would reduce the potential for impact to adjacent structures. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods and generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Rock excavation for the project could be accomplished using drilling and controlled blasting methods or mechanical excavation using bulldozers or using hydraulic impact hammers mounted on tracked excavators. Each method has advantages and disadvantages, but in each case, potential construction related impacts (e.g. ground-borne vibration, noise, dust, etc.) can be mitigated by establishing and adhering to standard industry threshold and limiting criteria for noise, vibration and dust.

Threshold levels of acceptable vibration, partly based on structure or utility type and condition, would be set and specified in the contract documents. Monitoring of the associated vibrations and effects will be performed. This would indicate whether or not the construction procedures used are generating surface and subsurface ground movements, and vibration intensities within specified limits. This monitoring will include a pre-construction survey of adjacent buildings, structures, and utilities; installation of seismographs to measure vibration intensity and frequency; and installation of other geotechnical instrumentation to monitor for any associated effects.

Both alternative sites are near the base of slopes. Both slopes are approximately 20-25 feet high and are about 2H:1V (horizontal to vertical). The toes of the slopes are 40 feet or farther from the proposed excavations. Additional geotechnical information will be gathered at the selected site to aid in assessing impacts of the excavation on the stability of the existing slope. If the geotechnical conditions and analyses indicate a likelihood of slope instability due to the proposed construction, such instability would be mitigated by implementing an appropriate design, using appropriate construction practices, and monitoring the slope and other affected facilities during construction. The current excavation support system concept is a secant pile wall. This wall system is installed into the ground prior to any excavation occurring – there will therefore not be an instance of an unsupported excavation near the toe of the slope.

Additionally, effects of the tank excavation on the slope's stability (if any) could be readily mitigated by adding additional reinforcing in the piles, deepening the piles, or increasing the pile thickness.

Dewatering-induced settlement generally occurs where water is removed from previously-saturated soils, reducing pressure in the soil's pores, and thereby increasing the effective stress in the soil. Much of the excavation for either alternative will be in bedrock. Dewatering of the excavation may be required, which would involve temporarily removing water from the fractures and joints in the rock during construction. While it is possible that this may cause some settlement, it is likely to be smaller than settlement associated with dewatering in soil. Because the excavation will likely be supported by secant piling, dewatering would likely be limited to removing water from the interior of the excavation (rather than drawing the water down over a large area). This would reduce the settlement potential associated with the dewatering.

11.2.1.2 After Construction

No significant impacts to geology and soils are expected in Seward Park or the UPARR replacement area after construction. No direct impacts associated with geology would occur after construction of the project is complete.

11.2.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

No indirect impacts were identified for the Tennis Courts Alternative or the Parking Lot Alternative.

11.2.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

11.3 What measures would reduce or eliminate potential impacts associated with geology?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts associated with geology during and after construction. The measures would include, but are not limited to, those listed below:

- Use construction methods that do not produce significant vibration, such as secant pile walls (vertical elements drilled into place) or drilled/grouted shoring systems, to not impact adjacent structures.
- Specify threshold vibration levels in the contract documents.
- Perform pre and post-construction surveys of nearby structures and utilities.

- Implement a monitoring program to measure vibration levels and any movement of nearby existing structures.
- If blasting is used for excavation, specify a threshold value for air overpressure based on acceptable levels; control the powder factor, the charge weight per delay, and delay pattern; and provide proper stemming, blasting mats, and proper relief for each blast.
- Dispose of excavated soil at an appropriate, permitted, offsite disposal facility.

11.4 Would the proposed project have any significant unavoidable adverse impacts associated with geology?

No significant unavoidable adverse impacts associated with geology are anticipated during or after construction.

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12 Land and Shoreline Uses

12.1 What are the designated land and shoreline uses in the project area?

12.1.1 Designated Land Use

The project area is zoned as Residential Single Family (SF) with minimum lot sizes of 7,200 and 9,600 square feet (see Figure 12-1). Land use in SF-zoned areas is regulated by the Seattle Municipal Code (SMC) Chapter 23.44, Residential Single-Family (City of Seattle 2011). The current comprehensive plan land use designations at the project location are City-Owned Open Space and Single Family Residential (DPD 2005).

12.1.2 Designated Shoreline Use

Project facilities would be located in shoreline areas designated as Conservancy Recreation and Conservancy Preservation in Seward Park and Conservancy Management in the UPARR replacement area (see Figure 12-2). The purpose of these designations, according to the City of Seattle Shoreline Master Program, is as follows:

- **Conservancy Recreation** is to provide public access and recreational use of shorelines while protecting ecological functions.
- **Conservancy Preservation** is to preserve, protect, restore, or enhance certain areas that are particularly biologically or geologically fragile and to encourage the enjoyment of those areas by the public.
- **Conservancy Management** is to conserve and manage areas for public purposes, recreational activities, and fish migration routes.

12.2 How would the proposed project affect land and shoreline uses?

12.2.1 Direct Impacts - Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

12.2.1.1 During Construction

No significant impacts to land and shoreline uses are expected in Seward Park or the UPARR replacement area during construction.

The shoreline treatment in Seward Park and the transfer of UPARR grant protections and upland landscaping enhancements in Lake Washington Boulevard Park are permitted outright. The CSO storage tank and the CSO outfall replacement in Seward Park would need to be reviewed and approved under a Council Conditional Use Permit.

The CSO outfall replacement, shoreline treatment, and UPARR replacement area are consistent with the current Shoreline Master Program. The CSO storage tank is inconsistent with the current Shoreline Master Program because CSO facilities (i.e., utility service uses) are prohibited within a Conservancy Recreation shoreline environment. However, DPD has proposed amendments to the Shoreline Master Program that would allow CSO facilities within Conservancy Recreation shoreline environments. If the amendments are approved, the CSO facilities would be permitted.

12.2.1.2 After Construction

No significant impacts to land and shoreline uses are expected in Seward Park or the UPARR replacement area after construction. The presence of the project facilities would result in a dedicated use of the sub-surface area and would restrict certain future uses in the surface area. For example, the presence of the CSO storage tank would complicate siting certain structures, or developing a treed area, in that same location.

The transfer of the UPARR grant protections to the replacement area would restrict potential future uses of that area. This impact is considered minor because the affected area is a small portion of the overall land in Seward Park and the UPARR replacement area and is consistent with current and future plans for those areas.

12.2.2 Indirect Impacts - Tennis Courts and Parking Lot Alternatives

No indirect impacts were identified for the Tennis Courts Alternative or the Parking Lot Alternative.

12.2.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

12.3 What measures would reduce or eliminate potential impacts on land and shoreline uses?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts on land and shoreline uses during and after construction. The measures would include meeting regulatory requirements, implementing standard best management practices, and restoring the project to pre-construction uses after construction.

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Legend

- Commercial (NC1-30)
- Residential (SF 5000)
- Residential (SF 7200)
- Residential (SF 9600)
- Potential Project Areas

0 250 500 1,000 Feet

N

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

LAND USE ZONES

JANUARY 2013

FIGURE 12-1

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Legend

- Conservancy Management
- Conservancy Preservation
- Conservancy Recreation
- Potential Project Areas

0 250 500 1,000 Feet

N

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

SHORELINE ENVIRONMENT DESIGNATIONS

JANUARY 2013

FIGURE 12-2

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12.4 Is the proposed project consistent with plans and zoning regulations?

12.4.1 Consistency With Plans

City of Seattle Comprehensive Plan

The City of Seattle Comprehensive Plan (DPD 2005) provides policies that guide the adoption of development regulations and inform policy decisions regarding development within the City. The most salient goals and policies relevant to the proposed project are listed below, along with a summary of the subject matter:

Utilities

- UG1 - Provide reliable service with environmental stewardship and public health protection
- UG2 - Maintain the service reliability of the City's utility infrastructure
- U15 - Prioritize CSO projects according to frequency, volume, and location sensitivity
- U18 - Work with neighborhood and community representatives in siting facilities
- U20 - Incorporate open space in the siting and design of facilities

Environment

- EG1 - Protect and improve air, land, and water quality for people and wildlife
- EG4 - Recognize and enhance the value of aquatic areas
- EG5 - Pursue the long-term health of Seattle's receiving waters
- EG6 - Minimize the number and extent of CSO events
- E4 - Protect and retain trees that enhance historical, cultural, environmental and aesthetic character
- E23 - Achieve no net loss of tree canopy

Land Use

- LUG45 - Preserve and enhance views of the shoreline and water
- LUG55 - Protect special shoreline areas
- LUG58 - Upgrade and/or beautify the public shoreline
- LU12 - Limit non-residential uses in residential zones
- LU18 - Locate parking facilities to avoid traffic through residential streets
- LU38 - Use screening and landscaping to minimize impacts
- LU39 - Preserve and enhance the physical and aesthetic character and environment by protecting trees
- LU47 - Limit light and glare on surrounding uses
- LU249 - Minimize impacts of dredging and disposal of dredge materials

Transportation

- TG7 - Protect neighborhood streets from through traffic
- T8 - Reduce and help prevent road damage from heavy vehicles
- T17 - Reduce the number of vehicle trips and miles driven

Cultural Resources

- CRG7 - Preserve the integrity of cultural resources

The proposed project is consistent with many of the individual Comprehensive Plan goals and policies, including those that call for improving water quality and minimizing CSO events. The proposed project is inconsistent with some of the individual Comprehensive Plan goals and policies, including those that call for preserving the solitude of residential neighborhoods and preserving trees.

As noted in the Comprehensive Plan, "Some policies may appear to conflict, particularly in the context of a specific fact situation or viewed from the different perspectives of persons whose interests may conflict on a given issue. A classic example is the oft-referenced conflict between policies calling for preservation of the environment and policies that promote economic development. Because Plan policies do not exist in isolation, and must be viewed in the context of all potentially relevant policies, it is largely in the application of those policies that the interests which they embody are reconciled and balanced by the legislative and executive branches of City government." (DPD 2005).

Based on the context of all potentially relevant Comprehensive Plan goals and policies and the application of their underlying interest, the proposed project is consistent with the overall Comprehensive Plan, while being inconsistent with some of the individual goals and policies considered in isolation.

Seward Park Vegetation Management Plan

The Seward Park Vegetation Management Plan provides guidelines for community-based stewardship activities, capital improvement projects, and maintenance. The plan primarily focuses on the protection and enhancement of the vegetation resources of the park. Goals of the plan include preserving and enhancing the forest health, improving habitat for native wildlife, and managing vegetation consistent with habitat, park landscape heritage and established uses.

The proposed locations for the underground storage facilities would maintain the existing park uses and do not preclude any future uses or projects identified within the Seward Park Vegetation Management Plan. Existing shoreline vistas, controlled access to the water, and habitat enhancement are provided per the plan's goals. The proposed alternative locations also provide opportunities to enhance the shoreline and upland native restoration planting. Removal of existing trees is not specifically addressed in the plan, but would generally not be consistent with the plan. The proposed project restoration and enhancement measures would be consistent with the plan.

Seward Park Comprehensive Trail Plan

The Seward Park Comprehensive Trail Plan provides a guideline for trail-related development and maintenance for Seward Park. The plan repeats the goals of the Seward Park Vegetation Management Plan, including preserving the park's exceptional native forest, and providing visitors with an inspiring experience of nature and diverse recreational opportunities focused near the lakeshore. The plan's goals include preserving the primitive feeling of existing trails, improving wildlife habitat, and closing and removing opportunities for social trails. The plan primarily addresses trail stewardship within the interior of the park and does not specifically address improvements adjacent to either the Parking Lot or Tennis Court Alternatives.

The proposed locations for the underground storage facilities would maintain the existing park uses and do not preclude future uses or projects identified within the Seward Park Comprehensive Trail Plan, though parking for trail users would be affected during construction. Proposed upland understory planting at either alternative site would align with goals to limit opportunities for social trails. Native planting for either alternative site would support habitat development.

Lake Washington Boulevard Vegetation Management Plan

The Lake Washington Boulevard Vegetation Management Plan provides a comprehensive set of guidelines for the development of future improvement projects, and maintenance and operational standards for trees, shrubs and lawn along the Boulevard. Goals of the plan include preserving the identity of the corridor, removing of invasive vegetation, enhancing views, promoting native character where appropriate, and enhancing wildlife habitat.

The proposed project component in the UPARR replacement area is consistent with the Lake Washington Boulevard Vegetation Management Plan by removing invasive vegetation and providing low growing drifts of native planting adjacent to the lake, while maintaining and framing existing views. The proposed project component in the UPARR replacement area does not preclude any other projects identified in the Lake Washington Boulevard Vegetation Management Plan.

Seattle Parks and Recreation 2011 Development Plan

The Seattle Parks and Recreation 2011 Development Plan provides specific acquisition and development efforts planned for the city. It includes goals and policies related to park acquisition and development, an analysis that identifies areas in the city for acquisition and development, and contains Seattle's adopted 2011-2016 Capital improvement Program (CIP) for parks and recreational facilities. The highest priorities identified in the plan are the maintenance of existing facilities, and providing more trails, multi-purpose sports fields, parkland along the waterfront, and urban gardens. Specific goals that relate to this project include maintaining existing tennis courts, and restoring urban green spaces for habitat.

The proposed locations for the underground storage facilities and the project component in the UPARR replacement area would maintain the existing park uses and do not preclude any future uses or projects identified within the Seattle Parks and Recreation 2011 Development Plan.

12.4.2 Consistency With Zoning Regulations

The park and landscaping components of the project are permitted outright by the City's single-family zoning regulations, SMC 23.44.006. The storage facility and related infrastructure are also permitted by the single family zoning regulations, but a Council conditional use permit is required per SMC 23.44.036. The park and landscaping components are also permitted by the overlay zoning regulations contained in the City's Shoreline regulations. However as described above, the storage facility is inconsistent with the current Shoreline Master Program because CSO facilities (i.e., "utility service uses") are prohibited within a Conservancy Recreation shoreline environment. However, DPD has proposed amendments to the Shoreline Master Program that would allow CSO facilities within Conservancy Recreation shoreline environments. If the amendments are approved, the CSO facility would be permitted.

12.5 Would the proposed project have any significant unavoidable adverse impacts on land and shoreline uses?

No significant unavoidable adverse impacts on land and shoreline uses are anticipated during or after construction.

13 Noise and Environmental Hazards

13.1 What are the existing conditions for noise and environmental hazards in the project area?

Noise

The allowable construction noise limit, as measured at the property line, for the project area is 80 A-weighted decibels (dBA) per SMC 25.08.425. This limit consists of a base limit of 55 dBA plus a 25 dBA exceedance for the anticipated heavy construction equipment such as bulldozers, excavators, and cranes. Additionally, impulse type equipment such as pile drivers and jackhammers are allowed to exceed the 80 dBA limit for short periods.

HDR conducted noise monitoring at nine locations near the Tennis Courts Alternative and the Parking Lot Alternative sites (see Figure 13-1) to characterize existing noise conditions. The existing noise levels ranged from 37 to 60 dBA. Existing noise levels in Seward Park are low because of low traffic volumes in the park and the absence of other major noise sources. Measured noise levels at residential locations outside the park are higher due to traffic on Lake Washington Boulevard South, Seward Park Avenue South, and Lake Shore Drive South. Measured noise levels at all locations in the vicinity are typical of quiet, urban neighborhoods.

Environmental Hazards

Nine recognized environmental conditions (RECs) were documented within one mile of the project area based on historical documents, regulatory files, and site reconnaissance (HDR 2012e). An REC is defined by the American Society for Testing and Materials Practice E 1527-05 as: “the presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site.”

One REC (Site I) is located in the project area. Two RECs (Sites A and B) are located outside of the project area, but within 500 feet. The other six RECs are located more than a 1/2-mile away. Information on Sites I, A, and B is provided below and the locations are shown on Figure 13-2.

- **Site I - Basin 44 CSO Outfall Pipe**: The sediment in the vicinity of the existing CSO outfall pipe may contain petroleum, metals, semi-volatile and volatile organic compounds, and other contaminants, based on the age of the pipe, the known development in the area, potential spills from commercial activities, and 80 years of street runoff. If disturbed, sediments in and along the pipe and at its outfall may pose a risk to human health and the environment.

- **Site A – Seward Park Arts Annex, 5900 Lake Washington Boulevard South**: A 400-gallon, underground heating oil storage tank was decommissioned and removed from the Seward Park Arts Annex in December 1995. Upon removal, large rust holes and indications that the underground storage tank had leaked were observed. Soil was excavated by hand and contaminated soil was left in place to be addressed if the remaining structures were removed or renovated. Soil at the bottom of the excavation exceeded the Ecology Method A cleanup levels for petroleum hydrocarbons. The excavation area was lined with 10-millimeter plastic before being backfilled with pea gravel (Kleen 1995).
- **Site B – Seward Park Environmental/Nature Center Building, 5898 Lake Washington Boulevard South:** A release was reported from a leaking aboveground heating oil tank at the Seward Park Environmental/Nature Center building. Approximately 4.7 tons of petroleum-contaminated soil was excavated from the site in December 2006. Excavations were limited to the bottom of the building footing. Soil samples taken during excavation indicated high levels of heating oil remaining below grade. Additional measures were taken to remediate the remaining soil contamination, but the status is not known.

13.2 How would the project affect noise and environmental hazards?

13.2.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

13.2.1.1 During Construction

No significant impacts related to noise or environmental hazards are expected to occur in Seward Park or the UPARR replacement area during construction.

Noise

Noise levels would increase due to the operation of heavy construction equipment. Depending on the nature of the construction activity, the noise could vary from intermittent to continuous. Construction noise was modeled at nearby residences and park facilities (see Figure 13-1) using the Federal Highway Administration's Roadway Construction Noise Model (FHWA 2006) (HDR 2012c). Table 13-1 shows the modeled noise levels. Noise levels at the nearby residences would be higher under the Tennis Courts Alternative than under the Parking Lot Alternative. Noise levels at the nearby park facilities would be lower under the Tennis Courts Alternative than under the Parking Lot Alternative. While park users and nearby residents likely would notice a moderate increase in noise levels, the construction noise is not anticipated to exceed the allowable noise limit.

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Legend

- Monitoring Location
- Modeling Location
- Underground Storage Tank

0 100 200 400 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

NOISE MONITORING LOCATIONS

JANUARY 2013 | **FIGURE 13-1**

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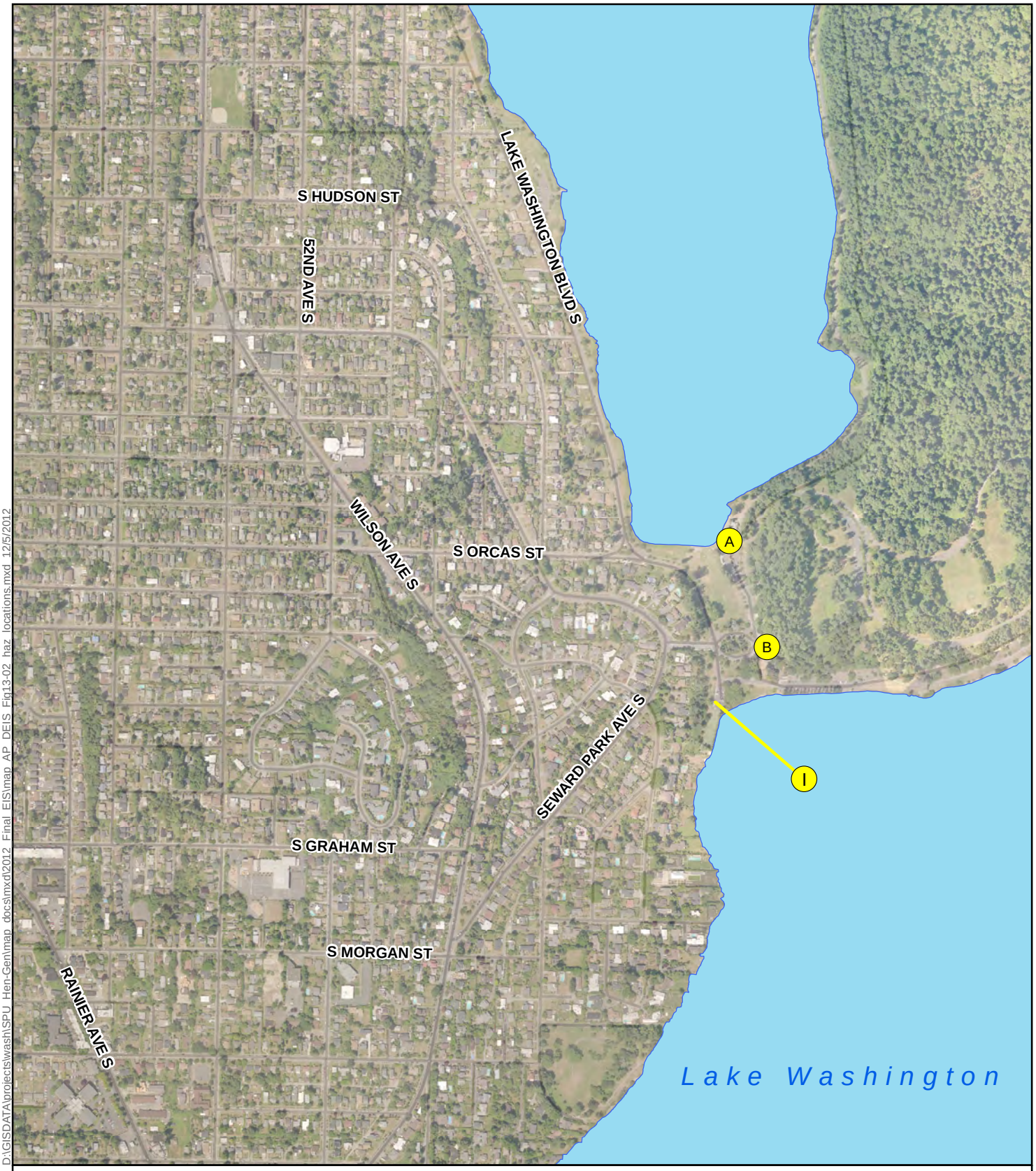

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Legend

Hazardous Materials Site

0 300 600 1,200 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

LOW TO MODERATE RISK HAZARDOUS MATERIALS SITES

JANUARY 2013

FIGURE 13-2

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Table 13-1. Modeled Construction Noise Levels

Receptors (Residences and Park Locations)	Tennis Courts Alternative		Parking Lot Alternative	
	Distance to Receptor (Feet)	Leq[1] (dBA)	Distance to Receptor (Feet)	Leq[1] (dBA)
R1 - Residence	680	65	860	63
R2 - Residence	430	69	795	64
R3 - Residence	430	69	775	64
R4 - Residence	320	72	820	64
R5 - Residence	320	72	795	64
R6 - Residence	180	77	820	64
R7 - Residence	225	75	910	63
R8 - Audubon Center	620	66	390	70
R9 - Playground	540	67	360	71
R10 - Picnic Shelter	580	67	210	76

[1]Leq = Equivalent continuous noise level

Environmental Hazards

Hazardous materials could be released into the environment from three RECs identified within 500 feet of the project area. The risk of contributing to the presence of contaminated soil or groundwater in the project area is low to moderate, as follows:

- **Site I Basin 44 CSO Outfall Pipe** – Due to the location within the project area, this site is ranked as a moderate risk. (See Section 13.3 for information related to minimizing this risk.)

- **Site A Seward Park Arts Annex** – The geography of this site suggests that any contamination would flow north, rather than south toward the project area. Since the Park Art Annex is located north of the project site, this site is considered low risk.

- **Site B Seward Park Environmental/Nature Center Building** – No records are available to report final remediation results. The geography of this site suggests that contamination would flow south toward the project area. However, because this site is only a few hundred feet away from the project area, this site is considered low to moderate risk.

13.2.1.2 After Construction

No significant impacts related to noise or environmental hazards are expected to occur in Seward Park or the UPARR replacement area after construction.

Noise

Noise would occur from operation of facilities and from maintenance activities. Noise generating equipment, such as fans from the odor control system, would be located below ground and maintenance would be infrequent and occur only during daytime hours, except in emergency situations. Additionally, a study that modeled the operational noise at nearby residences and park facilities concluded that the noise levels would be expected to comply with the maximum allowable noise limits (HDR 2012d).

Environmental Hazards

SPU anticipates no direct impacts associated with environmental hazards would occur after construction of the project is complete.

13.2.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

No indirect impacts were identified for the Tennis Courts Alternative or the Parking Lot Alternative.

13.2.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

13.3 What measures would reduce or eliminate potential impacts due to noise and environmental hazards?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to noise and environmental hazards during and after construction. The measures would include, but are not limited to, those listed below:

- Encourage noise-reducing measures, such as using sound-control devices on equipment, prohibiting equipment with unmuffled exhaust, minimizing idling time of equipment and vehicles, and installing acoustic barriers around stationary sources of construction noise.
- Conduct on-site noise monitoring to ensure compliance with SMC provisions, if necessary.

- Perform sediment characterization sampling and analysis to determine proper disposal near the existing CSO outfall for the potential contaminants that may include the following parameters: petroleum hydrocarbons, volatile organic compounds, semi-volatile organic compounds, and priority pollutant metals. If contaminants are found, limit their migration by best management practices, such as use of underwater silt curtains and sheet piles, and disposing of sediments in an approved offsite facility.
- Develop and implement plans for pollution prevention; to control and manage spills; and for sediment handling, testing, and disposal.

13.4 Would the project have any significant unavoidable adverse impacts on noise and environmental hazards?

No significant unavoidable adverse impacts on noise and environmental hazards are anticipated during or after construction.

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14 Energy and Natural Resources

14.1 How would the proposed project affect energy and natural resources?

14.1.1 Direct Impacts - Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

14.1.1.1 During Construction

No significant impacts related to energy or natural resources are expected to occur in Seward Park or the UPARR replacement area during construction.

Energy

Fuel would be consumed for transporting equipment and materials, construction equipment, and contractor commuting. The anticipated fuel consumption is approximately 230,000 gallons, as documented in Appendix D. This is equivalent to the annual consumption of approximately 400 light duty vehicles (passenger cars and light trucks), based on 2009 data from the US Bureau of Transportation Statistics (USDOT 2011).

Electrical energy would be used to power tools and equipment, as well as to provide site lighting during regular work hours at darker times of the year, typically November through March. The estimated amount of electricity is approximately 85,000 kilowatt hours (kWh), as documented in Appendix D. This is equivalent to the annual usage of approximately four homes, based on 2005 data from the US Energy Information Administration (US EIA 2010).

These energy impacts represent a small portion of the overall regional demand.

Natural Resources

Natural resources would be used for construction materials. Petroleum would be used in manufacturing polyvinyl chloride pipe, high-density polyethylene pipe, and asphalt. Rock, gravel, and sand would be used in concrete and as bedding material and backfill. Metals such as steel, aluminum, iron, copper, and brass, would be used for pipes, hatches, covers, pumps, valves, rebar, meters, and fittings. Water would be used to wash construction trucks and equipment, and control dust during construction. Plants installed as part of landscape restoration would come from commercial nurseries and, therefore, would not impact wild stocks. The quantities represent a small portion of the total regional resources available.

14.1.1.2 After Construction

No significant impacts related to energy or natural resources are expected to occur in Seward Park or the UPARR replacement area after construction.

Energy

Fuel would be consumed during operations for inspecting the storage tank and ancillary equipment, replacing odor control media, operating pumps and valves, and replacing ancillary equipment. SPU maintenance staff would typically visit the CSO storage tank quarterly to conduct inspections and maintenance, with most visits occurring during the wet weather season from November through March. Typical equipment used during these visits would include Vactor™ trucks and field service vans. In the first year or so of use, SPU staff may elect to visit the site periodically during or after a CSO event, which would require one vehicle. A watering truck would be used in the summer to water new plants during their establishment period, which is a minimum of three years. The anticipated annual fuel consumption for these activities would be approximately 38 gallons (see Appendix D), which would be equivalent to the consumption of less than one light duty vehicle.

Electricity would be used to direct CSOs to the tank and to power equipment (e.g., fans and pumps) that drains, cleans, and ventilates the CSO storage tank. The anticipated annual electricity consumed would be approximately 174,000 kWh (see Appendix D), which would be equivalent to the annual electricity use of approximately eight homes.

King County's West Point Treatment Plant would receive additional sewage flows that previously were discharged to Lake Washington. The effort to convey and treat these additional flows is expected to increase energy consumption at pump stations and the treatment plant by less than one percent.

The project energy requirements represent a small portion of the overall regional demand.

Natural Resources

Natural resources, namely petroleum and metals, would be used occasionally after construction as equipment reaches its useful life and requires replacement. The quantities represent a small portion of the total regional resources available.

14.1.2 Indirect Impacts – Tennis Courts and Parking Lot Alternatives

No indirect impacts were identified for the Tennis Courts Alternative or the Parking Lot Alternative.

14.1.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

14.2 What measures would reduce or eliminate potential impacts to energy and natural resources?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to energy and natural resources during and after construction. The measures would include, but are not limited to, those listed below:

- Encourage efficient energy use, such as limiting idling equipment, and encouraging construction workers to carpool.
- Acquire natural resources, such as backfill material and concrete mix, from local stockpiles to reduce the energy consumption from transportation of those materials.
- Size equipment used within the facility to maximize energy efficiency.

14.3 Would the proposed project have any significant unavoidable adverse impacts on energy or natural resources?

No significant unavoidable adverse impacts on energy or natural resources are anticipated during or after construction.

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15 Public Services and Utilities

15.1 What public services and utilities are in the project vicinity?

15.1.1 Public Services

Law Enforcement: Police protection services are provided by the Seattle Police Department, with assistance from the King County Sheriff's Department.

Fire and Life Safety: Fire and life safety services are provided by the Seattle Fire Department.

Schools: The project area is served by the Seattle School District and private schools. There are six schools within two miles of the project site.

15.1.2 Utilities

Water: SPU provides water in the project vicinity. No water lines or water services are located within the construction limits; however, water lines are located next to the entrance of Seward Park and near the UPARR replacement area.

Sewer: SPU and Seattle Parks provide sewer services in the project vicinity. SPU owns and operates sewer infrastructure in Seward Park related to Basin 44. Seattle Parks owns and operates a small sanitary sewer system, including a small pump station that handles sewage generated in Seward Park. The Seattle Parks sewer system discharges into SPU's combined sewer system. In the UPARR replacement area, no sewer services are within the construction limits; however, sewer pipelines are located nearby in Lake Washington Boulevard South.

Drainage: Stormwater from the parking lots and roadways in Seward Park is managed by Seattle Parks and is discharged into Lake Washington without treatment. SPU manages stormwater in the rest of Basin 44 and has a stormwater pipe that runs between Parking Lot 1 and Parking Lot 2 and ends as an outfall into Lake Washington. No impervious surface exists in the UPARR replacement area; however, stormwater from the adjacent parking lot is managed by Seattle Parks and is discharged into Lake Washington without treatment.

Solid Waste: The City contracts with Waste Management, Inc., and CleanScapes for citywide solid waste and recycling collection and compostable collection services, respectively, including the project area.

Electrical Power: Seattle City Light provides electrical service in the project vicinity. For both Seward Park and the UPARR replacement area, there are no power lines within the construction limits; however, there is power nearby along Lake Washington Boulevard South and into Seward Park.

Natural Gas: Puget Sound Energy provides natural gas service in the project vicinity. For both Seward Park and the UPARR replacement area, there are no gas lines within the construction limits; however, there is gas nearby.

Communications: CenturyLink provides the project vicinity with traditional land-line telephone services, Comcast provides cable TV services, and various telecommunications companies provide cellular telephone services.

15.2 How would the proposed project affect public services and utilities?

15.2.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

15.2.1.1 During Construction

No significant impacts to public services and utilities are expected related to Seward Park or the UPARR replacement area during construction.

Public Services

Slower response times for police, fire, and safety emergencies in the parks and in the surrounding neighborhood could occur due to increased traffic along the construction route and closure of the parking lots which could increase distances traveled on foot for emergency services. This impact is considered minor because the traffic delays are anticipated to be minor.

There would be no direct impact on schools because the project area is not close enough to cause delays in school bus transportation or pedestrian travel times.

Utilities

Water: A new water line would be constructed for the CSO storage tank from the intersection of South Juneau Street and Lake Washington Boulevard South to the project facilities. Additionally, water might be used to control dust and wash equipment during construction. These activities typically would not interrupt water service to existing customers and the amount of water represents a small portion of the regional water supply. Short-term, temporary disruption of water service in Seward Park may occur when the new water line is connected to the existing system. The connection would be scheduled to avoid impacting water service during peak use periods.

Sewer: Construction of combined sewer system improvements would involve building new portions of the system (e.g., new sewer pipes to the CSO storage tank) and re-working certain existing portions of the system (e.g., modifying existing control structures). This construction would not interrupt sewer service to existing customers.

Solid Waste: Construction activities would generate solid waste consisting of asphalt, fencing, tennis court surfacing material, shrubbery, wood, paper waste, and various construction materials. The volume of generated waste and compostable materials represents a small portion of the regional solid water stream and construction activities would not disrupt normal solid waste collection at Seward Park.

Electrical Power: A new power line would be laid between the base of an existing service pole near the park entrance on South Juneau Street and the existing vault located at South Juneau Street and Lake Washington Boulevard South. Electrical power would be used for power tools, equipment, and lighting. These activities would not interrupt power service to existing customers and the amount of electricity represents a small portion of the regional power supply.

Communications: New cable lines for the CSO storage tank would be installed to transmit instrumentation monitoring data to SPU's control system during operation. Construction would not interrupt service to existing customers.

Drainage and Natural Gas: No direct impacts to drainage or natural gas are anticipated during construction.

15.2.1.2 After Construction

No significant impacts to public services and utilities are expected related to Seward Park or the UPARR replacement area after construction.

Public Services

No significant direct impacts to public services are anticipated after construction of the project.

Utilities

Water: Water would be used to flush the CSO storage tank after storage events. It is anticipated that the tank would be used approximately 12 to 16 times a year depending on rainfall conditions, and approximately 16,000 gallons of water would be used for a cleaning flush after each use. This would be equivalent to the water consumption of three single-family homes for one year. The peak flow rate to the facility is anticipated to be approximately 100 gallons per minute. Additionally, water would be used to irrigate new plants during their establishment period, which is a minimum of three years. The amount of water represents a small portion of the regional water supply.

Sewer: The proposed project would result in improvements to the combined sewer system function due to the installation of new equipment and pipes. This would improve the functioning of the combined sewer system, including a reduction of CSO events from Basin 44 to a long-term average of no more than one untreated discharge per year. King County's West Point Treatment Plant and the conveyance system to the treatment plant would receive additional sewage flows because of the project. The increased flow represents a minor increase of less than 1 percent and would only occur when capacity in the sewer conveyance system is available.

Drainage: Following construction, stormwater from the reconstructed parking lots would receive treatment prior to discharge in Lake Washington. This would improve the drainage system, because stormwater runoff is currently discharged without treatment.

Electrical Power: Electrical power would be used during operations to power equipment to drain, clean, and ventilate the CSO storage tanks. This impact is considered minor because the amount of electricity represents a small portion of the regional power supply.

Solid Waste, Natural Gas and Communications: No direct impacts to solid waste, natural gas, or communications are anticipated after construction.

15.2.2 Indirect Impacts - Tennis Courts and Parking Lot Alternatives

No indirect impacts to utilities and public services were identified.

15.2.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

15.3 What measures would reduce or eliminate potential impacts to public services and utilities?

For both the Tennis Courts Alternative and the Parking Lot Alternative, SPU would take measures to help reduce or eliminate potential impacts to public services and utilities during and after construction. The measures would include, but are not limited to, those listed below:

- Notify law enforcement and fire and safety agencies of estimated truck trips and schedules so they can adjust their service area and routes if needed to maintain response times.
- Notify law enforcement and fire/emergency services providers in advance when access to Seward Park would be reduced.
- Provide advance notice and coordinate with affected utilities, such as solid waste service providers, to minimize disruption of services.
- Recycle and compost construction debris to the extent possible to minimize solid waste.

15.4 Would the proposed project have any significant unavoidable adverse impacts on public services and utilities?

No significant unavoidable adverse impacts on public service or utilities are anticipated during or after construction.

16 Environmental Justice

16.1 What are the regulations related to Environmental Justice?

Federal agencies are required to achieve environmental justice by addressing "disproportionately high and adverse human health and environmental effects on minority and low-income populations" (Executive Order No. 12898, CEQ 1997). To do this, the demographics are examined to determine whether minority populations or low-income populations are present in the area affected by a proposed project. If so, a determination must be made as to whether the proposed project may cause disproportionately high and adverse human health or environmental effects on these populations.

The Council on Environmental Quality (CEQ) defines "minority" to consist of the following groups: Black/African Americans, Asian, Native Hawaiian or Other Pacific Islander, American Indian or Alaskan Native, and Hispanic populations (CEQ 1997). For this analysis, "minority" also included all other nonwhite racial categories within the U.S. Census Bureau's 2010 Census of Population and Housing, such as "some other race" and "two or more races." The analysis used the Census 2010 data.

16.2 What are the minority and low-income populations in the project vicinity?

The study area is approximately defined as the 2010 Census tracts that encompass the project areas for the Tennis Courts Alternative, the Parking Lot Alternative, the UPARR replacement area, and both construction routes. The study area is intended to capture construction impacts and the beneficial operational effects of those who live closest to the project area and construction routes.

16.2.1 Minority Populations

Figure 16-1 shows the Census tracts within the study area. Table 16-1 shows total and minority population data for each Census tract, along with City of Seattle, King County, and Washington State statistics for comparison.

All three Census tracts include large minority concentrations. Two of the Census tracts (101 and 103) include minority concentrations that are greater than 50 percent of the total population, as does the study area as a whole. The study area has a higher combined minority concentration than Seattle, King County, and the state as a whole. Blacks/African Americans are the largest minority group in the study area, comprising 23 percent of the total population followed by Asian, Native Hawaiian, or Other Pacific Islanders at 21 percent of the total population. Whites comprise 37 percent of the study area.

Table 16-1. 2010 Demographic Data – Minority Populations

Census Location	Total Population	Minority Population	Percent Minority
Washington State	6,724,540	2,283,968	34%
King County	1,931,249	777,782	40%
City of Seattle	608,660	226,119	37%
Study Area			
Census Tract 101	6,553	4,356	66%
Census Tract 102	4,835	2,236	46%
Census Tract 103	5,940	4,305	73%
Study Area Total	17,328	10,897	63%

Source: US Census 2010

In addition to the formal study area around the parks and construction routes, where most of the construction impacts would be experienced, park users come from a broader area throughout the Puget Sound region. Seattle Parks does not keep data on minority and low-income users of Seward Park and Lake Washington Boulevard Park. Seattle Parks estimates that:

- Weekday users mostly come from the surrounding community.
- Weekend visitors come from a broader area.

There are many cultural, athletic, and other types of events that draw a large number of people from the region and beyond. These events are estimated to have less than half minority participation on average (Parks 2011b).

16.2.2 Low-Income Populations

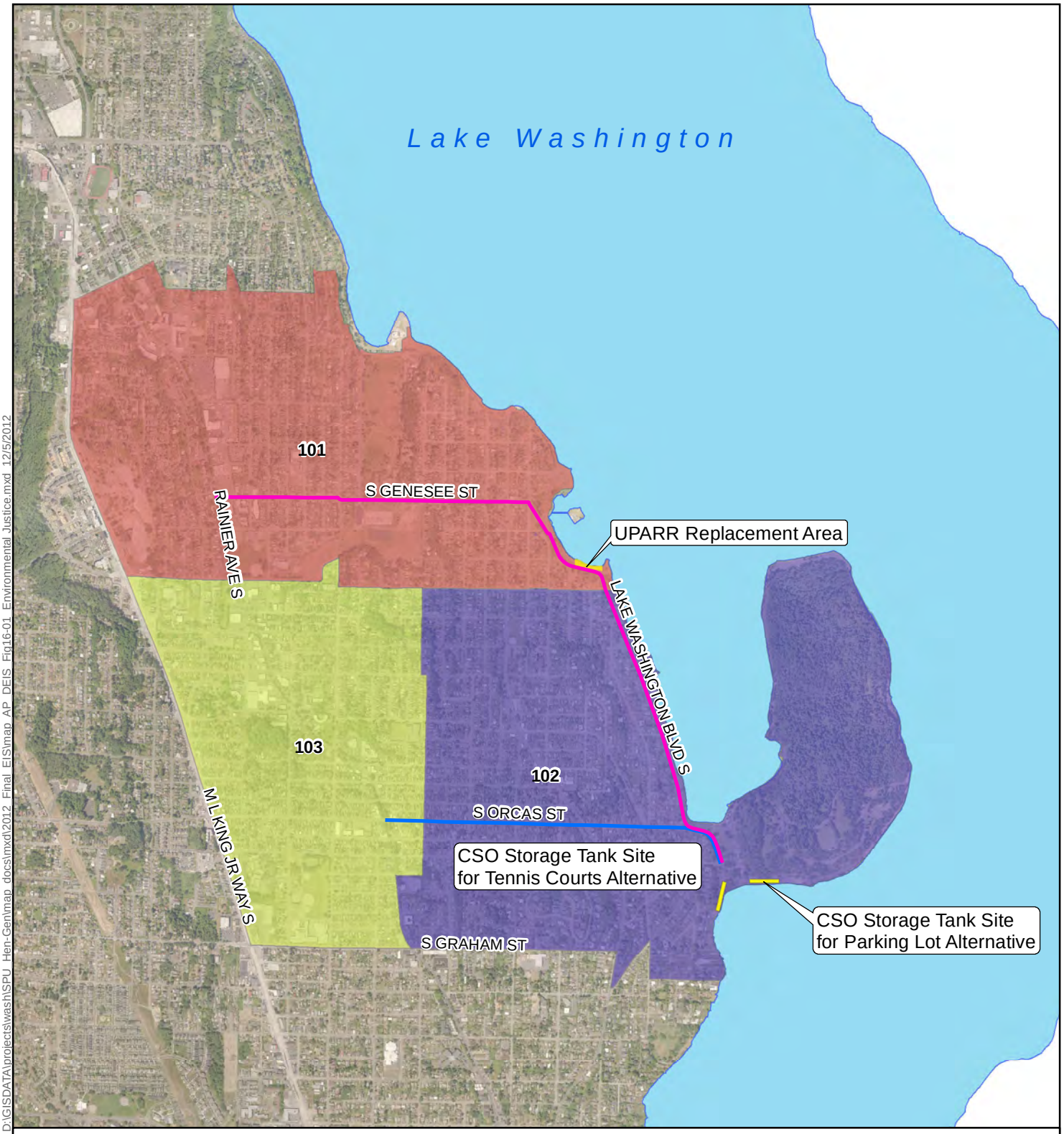
The U.S. Census provides data on the percentage of the population that is below the poverty level and on low-income populations. "Low-income" are those households with income at 150 percent of the poverty level. Table 16-2 shows poverty level and low-income statistics for the Census tracts, along with Seattle, King County, and Washington State for comparison. Almost one-third of the population in the study area would be considered low-income, which is slightly higher than that of the City of Seattle and King County, and more than double that of the state as a whole.

Table 16-2. 2010 Demographic Data – Low-Income Populations

Census Location	Population for whom Poverty Determined[1]	Percent Below Poverty Level	Percent Low-Income
Washington State	6,615,922	13%	14%
King County	1,905,324	12%	21%
City of Seattle	588,062	15%	26%
Study Area			
Census Tract 101	5,756	8%	25%
Census Tract 102	4,786	5%	33%
Census Tract 103	5,933	20%	31%
Study Area Total	16,475	11%	29%

Source: US Census 2010

[1]The determination of poverty is only applies to individuals 16 years old and above.



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Legend

- Potential Construction Route 1
- Potential Construction Route 2
- Potential Project Areas

2010 Census Tracts

- 101
- 102
- 103

0 600 1,200 2,400 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

ENVIRONMENTAL JUSTICE STUDY AREA

JANUARY 2013

FIGURE 16-1

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16.3 How would the proposed project affect environmental justice populations?

16.3.1 Direct Impacts – Tennis Courts and Parking Lot Alternatives

The impacts would be the same for both alternatives, unless noted otherwise.

16.3.1.1 During Construction

No significant adverse human health or environmental impacts to environmental justice populations are expected related to Seward Park or the UPARR replacement area during construction.

As discussed in previous chapters (particularly Chapter 4 Recreation), there are potential short-term impacts on park users. Examples include the temporary closure of Parking Lots 1 and 2, limits on certain uses of Seward Park including the tennis courts and playground, and potentially fewer large events in Seward Park. Weekday park users mostly come from the area surrounding Seward Park, which is more ethnically diverse (63% minority) than the overall city (37% minority). Therefore, the impacts during weekdays may have a disproportionate affect on minorities using Seward Park. Weekend park users come from a broader area, which is less diverse. Therefore, the impacts during weekends would likely not disproportionately affect minorities using Seward Park. The impacts are not significantly different than those that will be felt when SPU constructs CSO improvements in other areas of the city, including areas that are less diverse than the Seward Park area.

The area surrounding Seward Park is not significantly more economically disadvantaged (29% low-income) than the overall city (26% low-income). Therefore, the impacts would not appear to have a disproportionate affect on low-income populations using Seward Park.

Transferring the UPARR projections to the UPARR replacement area does not have environmental justice impacts.

16.3.1.2 After Construction

No impacts to environmental justice populations are expected related to Seward Park or the UPARR replacement area after construction.

16.3.2 Indirect Impacts - Tennis Courts and Parking Lot Alternatives

The project would not cause a disproportionate indirect impact to low-income or minority populations or change economic or demographic patterns.

16.3.3 Direct and Indirect Impacts – No Action Alternative

Under the No Action Alternative, the CSO storage tank would not be built and the shoreline treatment and transfer of grant restrictions would not be implemented. However, the existing CSO outfall is expected to be replaced between 2015 and 2020 as part of the SPU Outfall Rehabilitation Program. The direct and indirect impacts of the CSO outfall replacement would be addressed by a separate SEPA environmental review process that would be conducted prior to the CSO outfall replacement.

16.4 What measures would reduce or eliminate potential impacts on environmental justice populations?

For both the Tennis Courts Alternative and the Parking Lot Alternative, the measures described in Chapters 4 through 15 and 17 to reduce or eliminate potential adverse impacts also would benefit all populations in the area, including environmental justice populations. In particular, the measures to address recreation and transportation impacts would reduce construction impacts on environmental justice populations, just as they would for the general population.

16.5 Would the proposed project have any disproportionately high adverse impacts on environmental justice populations?

As described in Chapter 4 Recreation, the proposed project would have the following short-term unavoidable impacts:

- Temporary closure of tennis courts
- Temporary closure of Parking Lot 1
- Temporary closure of Parking Lot 2

The impacts of those temporary closures may have a disproportionate affect on minorities using Seward Park during weekdays because weekday park users mostly come from the area surrounding Seward Park, which is more ethnically diverse (63% minority) than the overall city (37% minority).

16.6 What is the Environmental Justice determination for the proposed project?

When determining whether a project would have disproportionately high and adverse human health or environmental effects on minority and low-income populations, agencies take into account measures to reduce or eliminate potential adverse impacts, enhancements, and potential offsetting benefits to the affected minority or low-income populations.

Environment justice populations using Seward Park may be disproportionately affected because of the proposed project. This finding was reached considering the following:

- The proposed project would have potential short-term impacts on park users (e.g., temporary closure of Parking Lots 1 and 2), which are discussed in previous chapters (particularly Chapter 4 Recreation).
- Minority populations using Seward Park may be disproportionately affected because weekday park users mostly come from the area surrounding Seward Park, which is more ethnically diverse (63% minority) than the overall city (37% minority).
- Low-income populations using Seward Park are not expected to be disproportionately affected because the area surrounding Seward Park is not significantly more economically disadvantaged (29% low-income) than the overall city (26% low-income).
- No adverse impacts to environmental justice populations are expected after construction.

The impacts are not significantly different than those that will be felt when SPU constructs CSO improvements in other areas of the city, including areas that are less diverse than the Seward Park area.

SPU would continue to inform the public – including minority and low-income populations – about the proposed project throughout its duration.

This analysis meets the provisions of Executive Order 12898, as it is supported by Title VI of the Civil Rights Act.

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17 Cumulative Impacts

17.1 What are cumulative impacts and why do we study them?

Cumulative impacts are impacts on the environment that result from the incremental consequences of a proposed project when added to other past, present, and reasonably foreseeable future actions (or projects), regardless of who undertakes these actions. Cumulative impacts can result from individually minor, but collectively significant, action taking place over time.

Federal[1], state[2], and local[3] regulations require that cumulative impacts be considered in an EIS because these impacts inform the public and decision makers about possible unintended consequences of a proposed project that are not always revealed by examining direct and indirect impacts alone. This information helps project planners design measures that reduce or eliminate potential direct impacts under their control in ways that can make adverse cumulative impacts less severe. SPU cannot reduce or eliminate all cumulative impacts because it does not have jurisdiction over non-SPU projects that contribute to cumulative impacts. However, SPU is required to disclose cumulative impacts under NEPA and to suggest, when possible, practical measures that could be implemented by the responsible parties (USEPA 2008).

Reasonably Foreseeable Future Actions

A "reasonably foreseeable future action" is a private or public project already funded, permitted, or under regulatory review, or included in an approved final planning document. "Reasonably foreseeable" includes projects with a reasonable expectation of actually happening, as opposed to potential developments expected only on the basis of speculation.

A cumulative impact analysis was performed for the resources listed below based on the results of scoping, agency, and stakeholder consultations, and anticipated direct and indirect impacts of the proposed project:

- Recreation
- Cultural Resources
- Habitat, Wildlife and Fish
- Transportation
- Water Resources

Project analysts reviewed possible direct and indirect effects for the remaining elements and determined that the level of impacts on the resources would be low and when combined with the impacts from other past, present, and reasonably foreseeable future actions, would be inconsequential. Therefore, a cumulative impacts discussion for those elements is not included.

[1] 40 CFR 1502.16, 1508.7, 1508.8
[2] Ecology 2011
[3] SMC 25.05.670

17.1.1 How were boundaries determined for the cumulative impact analysis?

The geographic study area used for cumulative impact analysis is the total area of the resource that could be influenced by the direct or indirect impacts of the proposed project in combination with the impacts of past, present, and reasonably foreseeable future actions.

A cumulative impact analysis focuses on the future. The analysis goes far enough into the future to account for the potential direct and indirect impacts of the proposed project, along with other present and reasonably foreseeable future actions. However, the cumulative impacts on the resource also include persisting influences from past projects; therefore, the past is taken into account when characterizing the baseline condition.

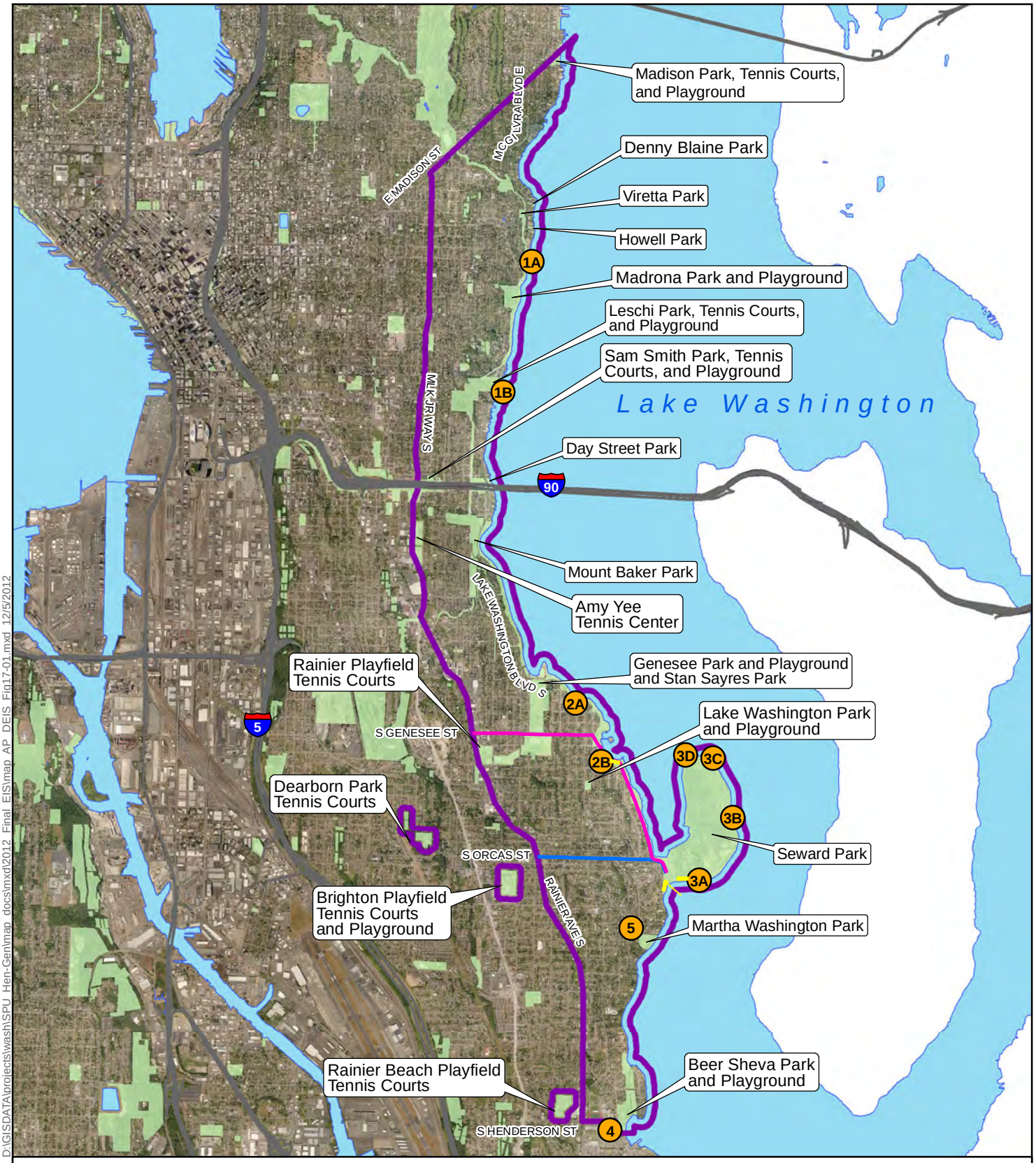
The study area and timeframe used for the cumulative impact analysis of each of the resources analyzed are described below.

Recreation: The geographic area for analyzing cumulative impacts on recreational resources is shown on Figure 17-1. This area encompasses multiple parks, a subset of which offer shoreline-based recreation, tennis courts, and playgrounds, and all of which may receive cumulative impacts from the proposed project. While Seward Park and Lake Washington Boulevard Park are along the shoreline and offer shoreline-based recreational opportunities, the geographic boundary extends a modest distance to the west to capture potential cumulative impacts on recreational areas close to the shoreline.

The time for analyzing cumulative impacts on recreation extends from 1903 through the end of SPU's CSO compliance period of 2025. The city hired the Olmsted Brothers in 1903 to develop a citywide plan for parks, including the areas that are now Seward Park and Lake Washington Boulevard Park (FOSP 2011b). This is the time period when the two parks clearly began to be developed for recreation. Information on how the two parks evolved from 1903 is discussed in Appendix C.

Cultural Resources: The geographic area for analyzing cumulative effects on cultural resources includes Seward Park, Lake Washington Boulevard and its associated parkland, and the other elements of the Olmsted-designed Seattle Parks and Boulevard System.

While the area has been used since prehistoric times by Native American peoples, the period for analyzing cumulative impacts on cultural resources extends from 1911, when Seward Park was acquired by the City of Seattle and designated as a park, to the end of the proposed construction period in 2017. No impacts are expected on archaeological resources because none were identified; therefore, the time for the beginning of the cumulative impact analysis was selected to reflect the time when the city acquired the park and changes to historic resources began.



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Legend

- Potential Project Areas
- Park
- Geographic Study Area
- Potential Construction Route 1
- Potential Construction Route 2
- Location of Other Projects

0 2,000 4,000 8,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

RECREATION CUMULATIVE IMPACTS STUDY AREA AND LOCATIONS OF CURRENT AND REASONABLY FORSEEABLE ACTIONS

JANUARY 2013 | **FIGURE 17-1**

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Habitat, Wildlife, and Fish: The geographic area for analyzing cumulative impacts on habitat, wildlife, and fish encompasses Seward Park, the UPARR replacement area, the shoreline lands and nearshore from Beer Sheva Park in the south to Madison Park in the north, and westward to where hardscaped development dominates (the western boundary varies along the lake shoreline). This encompasses the area where most direct and indirect impacts of the project on habitat, wildlife, and fish would occur, along with the impacts of other reasonably foreseeable future actions. It also provides a broad enough area in which to compare the proposed project's impacts on habitat, wildlife, and fish to other projects within the geographic area.

The period for analyzing cumulative impacts on habitat, wildlife, and fish extends from 1903 (the Olmsted Brother's citywide plan for parks, when the number of people using the Seward Park and Lake Washington Boulevard areas accelerated) through the end of SPU's CSO compliance period of 2025.

Transportation: The geographic area for analyzing cumulative impacts on transportation is shown on Figure 17-2. This area encompasses the construction routes likely to be used for the proposed project, as well as other reasonably foreseeable future SPU projects in the area that likely would have impacts associated with transportation.

The period for analyzing cumulative impacts associated with transportation is the proposed construction period, which extends from mid-2015 through the end of 2017.

Water: The geographic area for analyzing cumulative impacts on water resources is Lake Washington. This encompasses the area where most direct and indirect impacts of the project would occur, along with the impacts of other reasonably foreseeable future actions. It also provides a broad enough area in which to compare the proposed project's impacts on water quality to other projects within the geographic area.

The period for analyzing cumulative impacts on water quality extends from 1903 (the Olmsted Brother's citywide plan for parks) through the end of SPU's CSO compliance period of 2025.

17.1.2 How were other past, present, and reasonably foreseeable future actions identified?

SPU collected information on past and proposed projects that may contribute to cumulative impacts from field surveys, interviews with other public agencies, and from the public. The review for projects that might contribute to cumulative impacts focused on Seattle Parks projects, SPU projects, WSDOT projects, Seattle City Light projects, and other projects planned near Seward Park and Lake Washington Boulevard Park. In addition to their locations, the proposed timeframes of these projects were reviewed to determine whether they could occur within the same timeframe as the proposed project.

Table 17-1 briefly describes the projects that are considered present and reasonably foreseeable future actions for the cumulative impact analysis. Figure 17-3 and Figure 17-4 show the project locations.

Table 17-1. Present and Reasonably Foreseeable Future Actions

Map ID	Project	Description of Project	Construction Period
Proposed Project	SPU Henderson Basin 44 CSO Reduction Project	Construction of 2.4 MG underground storage tank and conveyance pipes, odor control facilities, and control systems. The project includes additional infrastructure, shoreline, and landscape improvements.	2015 - 2017
1A	SPU Outfall Rehabilitation Program: NPDES 28	Rehabilitation of an existing CSO outfall located in Lake Washington near Madrona Park.	By November 2015
1B	SPU Outfall Rehabilitation Program: NPDES 31	Rehabilitation of an existing CSO outfall located in Lake Washington near Leschi Park.	By November 2015
2A, 2B	SPU Genesee CSO Reduction Project	Installation of 0.48 MG and 0.12 MG underground storage tanks, odor control facilities, pipelines, and control systems at two sites. The project would disrupt recreation activities during construction, six parking spaces would be permanently eliminated; and the project could limit recreational opportunities or park amenities that could occur in those locations in the future.	2013 – 2014[1]
3A, 3B, 3C, 3D	WSDOT SR 520 Aquatic Mitigation Plan 1,2,3,4 (WSDOT and FHWA 2011)	Four aquatic mitigation projects in Seward Park, designed to enhance shoreline and nearshore environments through hard structure removal, riparian restoration, and gravel supplementation for spawning.	2016 - 2017
4	SPU 52nd Avenue South CSO Reduction Project and Mapes Creek Restoration Project	Installation of approximately 1,800 feet of 18-inch-diameter CSO conveyance pipe, 6 maintenance holes, aboveground electrical and controls cabinet, motor-operated gate structure, and flume (a device used to measure sewer flows located within the sewer). Mapes Creek would be redirected into a new 24-inch-diameter pipe approximately 1,600 feet long, with a diversion structure and energy dissipation system. Mapes Creek would discharge into a 300-foot to 400-foot-long channel that would meander through the park to its discharge point into Lake Washington. A paved bicycle/pedestrian walkway would temporarily be closed during construction. A new pedestrian bridge is planned within the park over the new creek channel.	2013 – 2015
5	SPU Henderson Basin 45 CSO Reduction Project	Installation of 0.2 MG underground storage and conveyance pipes, odor control facilities, and control systems. The project would be located in a private property adjacent to Martha Washington Park; part of the park would be closed to recreational use during construction.	2015 - 2018

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Legend

- Potential Project Areas
- Park
- Geographic Study Area
- Potential Construction Route 1
- Potential Construction Route 2
- Location of Other Projects

0 2,000 4,000 8,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

TRANSPORTATION CUMULATIVE IMPACTS STUDY AREA AND LOCATIONS OF CURRENT AND REASONABLY FORSEEABLE ACTIONS

JANUARY 2013 | **FIGURE 17-2**

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Legend

- Potential Project Areas
- Park
- Lake Washington Blvd Park (to Madison St.)
- Location of Other Projects

0 2,000 4,000 8,000 Feet

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

PROJECTS CONSIDERED FOR CUMULATIVE IMPACTS

JANUARY 2013 | **FIGURE 17-3**

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Legend

- Proposed Aquatic Mitigation - 520 Project
- Proposed Shoreline Treatment - CSO Reduction Project
- Proposed CSO Storage Tank - CSO Reduction Project
- Seward Park

0 250 500 1,000 Feet

N

Seattle Public Utilities

HENDERSON BASIN 44 CSO REDUCTION PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT

WSDOT SR520 SEWARD PARK AQUATIC MITIGATION PROJECTS

JANUARY 2013

FIGURE 17-4

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17.2 How has the evolution of the study areas contributed to cumulative impacts for the resources?

This section discusses how the study areas for cumulative impacts have evolved over time, and how the incremental changes that have occurred during the study periods for each resource have contributed to the current condition of the resource and cumulative effects. The contribution to cumulative effects from the proposed action and other reasonably foreseeable actions is discussed in Section 17.3.

17.2.1 Recreation

Seward Park has undergone changes since the Olmsted Brothers' 1912 preliminary plan for the Park. The improvements in Seward Park, like many large parks, were incremental over time. A 1936 plan of Seward Park in the Seattle Post-Intelligencer (PI) shows the amount of changes that had occurred since the opening of the park. These included the perimeter drive, large open meadow areas from clearing of trees, several large parking lots, a fish hatchery, and a new and larger entrance due to the lowering of Lake Washington in 1916. A 1950 plan in the Seattle PI illustrates additional changes, but with greater attention to the magnificent forest in the middle of the park (International Forestry Consultants, Inc., 2005). In 1953, the amphitheater was built to provide a venue for outdoor music. In 1970, the perimeter road was closed to vehicles, but remained open for bicyclists and pedestrians.

The changes that have accrued over time in Seward Park have evolved away from several Olmsted design principles and the preliminary plan of 1912. The Olmsted plan did include a variety of activities, many of which were located on the northern point of the peninsula, but the majority of the park interior was to be preserved as a forest. As the Seward Park Vegetation Management Plan states, "One can only conjecture how their ideas would have translated to reality" (Parks 2005). The design principle of unified composition has diminished as the park was divided by roads and various activities. The principle of orchestration of movement and uses are not as organized and logically separated as the Olmsteds envisioned. The incorporation of non-native trees and removal of understory plantings has resulted in loss of sustainable design. The principles of place and comprehensive approach are still visible.

17.2.2 Cultural Resources

The park has undergone numerous changes and improvements since it was first designated a city park in 1911. While the changes proposed by the project (for both the Tennis Courts Alternative and the Parking Lot Alternative) would result in an adverse effect on the Seward Park Historic District and Designed Landscape under NHPA Section 106, the proposed measures to minimize impacts would result in an overall minor change to the historic district. The cumulative impacts to the historic property from this project would be negligible.

17.2.3 Wildlife, Habitat, and Fish

Over time, original terrestrial habitat along the shoreline has been replaced with parks, residences, and commercial settings with plants existing mostly in landscaped areas that provide poor habitat quality for terrestrial animals. As a result, terrestrial populations have decreased. Lake Washington provides aquatic habitat but the same developmental pressures have degraded the quality of habitat for aquatic species with a corresponding decline in aquatic populations.

17.2.4 Transportation

The project vicinity and the geographic area for the analysis of cumulative impacts have undergone the development of transportation networks since the early development of the City of Seattle. The transportation network within the geographic area of analysis has been built out for many years and contains a full network of streets, sidewalks, and alternate modes of transportation.

17.2.5 Water

The water quality of Lake Washington has been greatly influenced by human activities. In the early- to mid-1950s, Lake Washington was directly receiving untreated or partially-treated municipal sewage, which led to increased growth of algal populations and reduced dissolved oxygen in the lake. Discharges of untreated or partially treated sewage ceased in the 1960s. In 1968, the depth of transparent or clear water was 10 feet below the water surface (King County 2011). Water transparency continued to improve over time, with water transparency reaching depths of 17 to 20 feet with a maximum depth of almost 25 feet in 1993 (King County 2011). Operation of the West Point and South treatment plants and elimination of raw sewage discharges into Lake Washington was one of many efforts to improve water quality conditions of the lake. Historically, untreated stormwater was discharged to the lake through outfalls. Efforts are underway to retrofit older outfalls with stormwater treatment and new outfalls include enhanced treatment. Industrial uses in the Lake Washington basin have led to increased concentrations of persistent toxins, such as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and heavy metals in lake sediments (King County 1995). The introduction of non-native, invasive plant species, such as Eurasian watermilfoil (*Myriophyllum spicatum*), into Lake Washington in the 1970s has altered the physical characteristics of habitats near the shore.

17.3 How would the proposed project and other present and reasonably foreseeable future actions contribute to cumulative impacts on recreation?

Potential cumulative impact contributions associated with the proposed project, as well as with other present and reasonably foreseeable future actions, are described below and summarized in Table 17-2.

17.3.1 Recreation

17.3.1.1 Proposed Project

During construction, the proposed project would contribute to adverse cumulative impacts on recreation because construction traffic along the proposed construction routes for the project could increase noise at other parks that have projects in construction at the same time. Parking loss at Seward Park during construction could increase parking congestion at nearby parks that have projects in construction at the same time.

After construction, the proposed project would contribute to adverse cumulative impacts on recreation because the presence of the CSO facilities would limit future opportunities to change to some other recreational use, eliminate either two (Tennis Courts Alternative) or five (Parking Lot Alternative) combined public parking spaces at Parking Lots 1 and 2, and contribute to the incremental change in the recreational character of the area's Olmsted Parks.

17.3.1.2 Other Present and Reasonably Foreseeable Future Actions

Other present and reasonably foreseeable future actions listed in Table 17-1 may contribute to cumulative impacts on recreation. These include projects 1A, 1B, 2A, 2B, 3A-3D, and 5. These projects were identified due to their impact on nearby parks that offered similar shoreline-based recreation, tennis courts, or playgrounds. The anticipated cumulative impacts of these projects are described below.

Projects 1A and 1B: During construction, the proposed project, in conjunction with Project 1A and 1B, would contribute to adverse cumulative impacts to recreation because multiple parks (Seward Park, a portion of Lake Washington Boulevard Park, and Madrona Park) would have partial closures at the same time, resulting in restricted access and recreational users seeking other parks in the area.

Projects 2A-2B: After construction, the proposed project, in conjunction with Projects 2A-2B, would contribute to adverse cumulative impacts to recreation because the projects would each permanently eliminate public parking spaces in parks (either two or five spaces in Seward Park; four spaces in the Lake Washington Boulevard South and 49th Avenue South parking lot, and two spaces in the Lake Washington Boulevard South and 53rd Avenue South parking lot).

Projects 3A-3D: During construction, the proposed project, in conjunction with Projects 3A-3D, would contribute to adverse cumulative impacts to recreation because more construction activity would be occurring at the same time in Seward Park, resulting in increased traffic and construction vehicles, more closed areas in the park, and increased noise.

After construction, the proposed project and Projects 3A and 3C would contribute to beneficial cumulative impacts to recreation because the projects would each enhance the Olmsted design principles as part of their re-vegetation work.

Project 5: During construction, the proposed project, in conjunction with Project 5, would contribute to adverse cumulative impacts to recreation because multiple parks (Seward Park, a portion of Lake Washington Boulevard Park, and Martha Washington Park) would have partial closures at the same time, resulting in restricted access and recreational users going elsewhere, increasing the demand on other parks in the area.

17.3.2 Cultural Resources

17.3.2.1 Proposed Project

No archaeological resources have been identified in the APE. No impacts on archaeological resources are anticipated from the proposed project. Therefore, the project would not contribute to cumulative impacts on archaeological resources.

17.3.2.2 Other Present and Reasonably Foreseeable Future Actions

Although some reasonably foreseeable future actions described in Table 17-1 may impact other Olmsted-designed parks in the area, such as Lake Washington Boulevard Park and Madrona Park, the project as planned would likely have minor impacts on those parks. Together with the Seward Park impacts, they would not constitute a significant cumulative effect that is detrimental to the overall Olmsted Parks and Boulevard System for Seattle

17.3.3 Habitat, Wildlife, and Fish

For the cumulative impact analysis of wildlife and fish, SPU assumes that all present and reasonable foreseeable future actions would be subject to regulations related to wildlife and fish, particularly those for protected animal species.

17.3.3.1 Proposed Project

During construction, the proposed project would contribute to adverse cumulative impacts on habitat, wildlife, and fish because the upland habitat in the construction area would not be available to wildlife and fish may temporarily move away from the area.

After construction, the proposed project would contribute to beneficial cumulative impacts on habitat, wildlife, and fish because the improved water quality would benefit the aquatic food web and habitat would be improved through the shoreline treatment and re-vegetation work.

Table 17-2. Contributions to Cumulative Impacts from the Proposed Project and Other Present and Reasonably Foreseeable Future Actions

Map ID	Project	Resources									
		Recreation		Cultural Resources		Habitat, Wildlife, and Fish		Transportation		Water	
		During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)
Proposed Project	SPU Henderson Basin 44 CSO Reduction Project	• Increased parking congestion and noise at nearby parks.	• Limit certain future uses in the location of the CSO facilities. • Combined loss of either two (Tennis Courts Alternative) or five (Parking Lot Alternative) public parking spaces in Parking Lots 1 and 2. • Incremental change in the recreational character of the area's Olmsted Parks.	• N/A	• Minor adverse effect on the Seward Park Historic District and Designed Landscape.	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements. • Improve upland and aquatic habitat through restoration work.	• Increased traffic in the project vicinity. • Potential damage to roads. • Potential disruption to pedestrians and bicyclists.	• N/A	• Potentially introduce sediment and other pollutants via runoff or disturbance of potentially contaminated soil near the existing CSO outfall pipe.	• Improved water quality in Lake Washington due to reduced frequency and volume of CSO events.
1A	SPU Outfall Rehabilitation Program: NPDES 28	• Partial closure of Madrona Park. • Increased use of nearby parks.	• N/A	• N/A	• N/A	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements.	• N/A	• N/A	• Potentially introduce sediment and other pollutants via runoff.	• Improved water quality by discharging CSOs at the intended distance in Lake Washington.
1B	SPU Outfall Rehabilitation Program: NPDES 31	• N/A	• N/A	• N/A	• N/A	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements.	• N/A	• N/A	• Potentially introduce sediment and other pollutants via runoff.	• Improved water quality by discharging CSOs at the intended distance in Lake Washington.
2A, 2B	SPU Genesee CSO Reduction Project	• N/A	• Permanent loss of 6 parking spaces.	• N/A	• N/A	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements.	• Increased traffic in the project vicinity. • Potential damage to roads. • Potential disruption to pedestrians and bicyclists.	• N/A	• N/A	• Improved water quality in Lake Washington due to reduced frequency and volume of CSO events.
3A, 3B, 3C, 3D	WSDOT SR 520 Aquatic Mitigation Plan 1,2,3,4 (WSDOT and FHWA 2011)	• Increased traffic and construction vehicles. • Increased noise. • More areas closed in Seward Park.	• Improved Olmsted design principles as part of re-vegetation work (Projects 3A and 3C only).	• N/A	• N/A	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improve upland and aquatic habitat through restoration work.	• Increased traffic in the project vicinity. • Potential damage to roads. • Potential disruption to pedestrians and bicyclists.	• N/A	• Potentially introduce sediment and other pollutants via runoff.	• N/A

Map ID	Project	Resources									
		Recreation		Cultural Resources		Habitat, Wildlife, and Fish		Transportation		Water	
		During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)	During Construction (Temporary Impact)	After Construction (Permanent Impact)
4	SPU 52nd Avenue South CSO Reduction Project and Mapes Creek Restoration Project	• N/A	• N/A	• N/A	• N/A	• Limited access to habitat in the construction area. • Displacement of some fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements.	• N/A	• N/A	• Potentially introduce sediment and other pollutants via runoff.	• Improved water quality in Lake Washington due to reduced frequency and volume of CSO events.
5	SPU Henderson Basin 45 CSO Reduction Project	• Partial closure of Martha Washington Park. • Increased use of nearby parks.	• N/A	• N/A	• N/A	• Limited access to some habitat. • Displacement of fish and wildlife.	• Improved aquatic habitat and food web through water quality improvements.	• Increased traffic in the project vicinity. • Potential damage to roads. • Potential disruption to pedestrians and bicyclists.	• N/A	• N/A	• Improved water quality in Lake Washington due to reduced frequency and volume of CSO events.

17.3.3.2 Other Present and Reasonably Foreseeable Future Actions

During construction, the proposed project, in conjunction with all the projects in Table 17-1 would contribute to adverse cumulative impacts on habitat, wildlife, and fish because each project would limit access to some habitat and temporarily displace some wildlife and fish.

After construction, the proposed project, in conjunction with Projects 1A-B, 2A-B, 4, and 5 would contribute to beneficial cumulative impacts on habitat, wildlife, and fish because the projects would each improve water quality, which in turn would have a positive impact on aquatic habitat. Additionally, the proposed project, in conjunction with Projects 3A-D would contribute to beneficial cumulative impacts on habitat, wildlife, and fish because each project would improve shoreline or aquatic habitat, or both.

17.3.4 Transportation

17.3.4.1 Proposed Project

During construction, the proposed project would contribute to adverse cumulative impacts on transportation because the proposed project would create additional traffic in the area that could result in increased congestion along construction routes, damage to roadways, and construction vehicles disturbing pedestrians and cyclists.

17.3.4.2 Other Present and Reasonably Foreseeable Future Actions

During construction, the proposed project, in conjunction with Projects 2A, 2B, 3A-3D, and 5 would contribute to adverse cumulative impacts to transportation because more construction traffic would occur in the area causing increased traffic along construction routes, potential damage to roadways, and construction vehicles disrupting pedestrians and cyclists.

17.3.5 Water

For the cumulative impacts analysis of water quality, SPU assumed that all present and reasonable foreseeable future actions would be subject to regulatory limits related to water quality.

17.3.5.1 Proposed Project

During construction, the proposed project could contribute to adverse cumulative impacts on water because the proposed project could introduce sediment and other pollutants via surface water runoff or potentially release contaminated soil near the existing CSO outfall pipe, which would impact water quality in Lake Washington. However, the proposed project would include erosion and sediment controls, spill control and prevention, and other best management practices, such as silt curtains to avoid uncontrolled discharges that could affect water quality.

After construction, the proposed project would contribute to beneficial cumulative impacts on water because the proposed project would improve water quality in Lake Washington due to the reduced frequency and volume of CSO events.

17.3.5.2 Other Present and Reasonably Foreseeable Future Actions

During construction, the proposed project, in conjunction with Projects 1A-B, 3A-D, and 4, could contribute to adverse cumulative impacts on water because each project could potentially introduce sediment and other pollutants via runoff, thus impacting water quality in Lake Washington. However, the projects would include erosion and sediment controls, spill control and prevention, and other best management practices, such as silt curtains to avoid uncontrolled discharges that could affect water quality.

After construction, the proposed project, in conjunction with Projects 2A-B, 4, and 5, would contribute to beneficial cumulative impacts on water because each project would improve water quality in Lake Washington through the reduced frequency and volume of CSO events. Additionally, the proposed project, in conjunction with Projects 1A-B would contribute to beneficial cumulative impacts on water because each project would improve water quality by discharging CSO at the intended distance in Lake Washington. In addition, there may be other projects that drain to Lake Washington that would have improved stormwater treatment resulting in improved water quality in Lake Washington. Examples of major projects include the State Route 520 Bridge Replacement, the HOV Program, and the I-405 project. It is likely that they would contribute to positive cumulative impacts on water quality in Lake Washington.

17.4 What measures would be implemented to reduce or eliminate cumulative impacts?

For both the Tennis Courts Alternative and the Parking Lot Alternative, the following measures would be taken to help reduce or eliminate the potential contribution to cumulative impacts:

- Discuss with WSDOT possible ways to avoid simultaneous construction of the proposed project and the aquatic mitigation projects in Seward Park (Projects 3A-3D in Table 17-1), to reduce impacts related to traffic, noise, closed areas in the park, and habitat restrictions.
- Locate aboveground features in the least visible locations and likely provide vegetation enhancement with Olmsted values to screen aboveground features. Provide landscaping with Olmsted values in the UPARR replacement area.
- Protect existing trees to the greatest extent possible.
- Temporarily suspend construction activities in the right-of-way and limit usage of contractor parking and staging areas, if needed, to accommodate heavier-than-usual numbers of park users during seasonal peak usage periods (e.g., Seafair events).
- Limit lane closures or construction during peak traffic times. Provide advance public notice and signage to help ensure adequate public access to shoreline areas and parking during construction.
- Provide signage at Seward Park and on SPU and Seattle Parks websites regarding alternate driving routes to avoid construction traffic.

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Appendix A SEPA Notification

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Determination of Significance and Request for comments on Scope of EIS (DS)

City of Seattle
Seattle Public Utilities

Determination of Significance and Request for Comments on Scope of EIS
Henderson Basin 44 CSO Reduction Project

Description of Proposal: The City of Seattle is required to reduce the number of untreated overflows from its combined sewer system to meet State and Federal regulations. In a combined sewer system, wastewater (from homes and businesses) and stormwater (from rooftops and streets) flow into a single pipeline. During heavy rains, wastewater and stormwater volumes can exceed the system's capacity, causing a combined sewer overflow (CSO) into the nearest waterway. CSOs are a public health concern because they carry pollutants—primarily untreated sewage and stormwater runoff—into the receiving water bodies.

Reducing CSOs from Henderson Basin 44 is one of the highest priorities for Seattle Public Utilities (SPU), the department that operates and maintains the City's sewer system. In 2010, there were 16 overflow events from Henderson Basin 44, discharging a total of approximately 9.9 million gallons of sewage and stormwater into Lake Washington, just south of Seward Park. SPU's objectives are to reduce the volume and frequency of Basin 44 CSOs and to meet State law and regulations that limit CSOs to a long-term average of no more than one untreated discharge per outfall per year.

Three alternatives have been identified and will be evaluated in an environmental impact statement (EIS):

Alternative 1 – Storage under Seward Park Parking Lot. SPU would construct a 2.4-million-gallon tank under a parking lot on the south side of Seward Park and associated pipelines that would store and convey excess combined sewer flows until the flows could be gradually released back into the sewer system as system capacity becomes available. When construction is complete, the parking lot would be restored to its current size and function.

Alternative 2 – Storage under Seward Park Tennis Courts. SPU would construct a 2.4-million-gallon tank under the Seward Park tennis courts and adjacent parking lot and associated pipelines that would store and convey excess combined sewer flows until the flows could be gradually released back into the sewer system as system capacity becomes available. When construction is complete, the parking lot and tennis courts would be restored to their current size and function.

No Action Alternative – The project would not be built.

Proponent and Lead Agency: Seattle Public Utilities is the project proponent and is serving as the SEPA lead agency.

Henderson Basin 44 DS 5/19/2011

Location of Proposal. The Henderson Basin 44 area extends along the west shoreline of Lake Washington adjacent to Andrews Bay and Seward Park. Basin 44's boundaries are defined by the geographic area that contributes CSOs from Basin 44 to Lake Washington. The east boundary is Lake Washington. Basin 44's other boundaries vary, but are approximately 52nd Avenue South on the west side, approximately South Hudson Street on the north side, and approximately South Morgan Street on the south side. The proposed project would be located at one of two sites in Seward Park, which is located within the boundaries of Basin 44.

EIS Will Be Prepared. SPU, as the lead agency, has determined that this proposal may have a significant adverse impact on the environment. Although it may be shown that the impacts would be temporary or could be mitigated, SPU has voluntarily decided to prepare an environmental impact statement (EIS).

SPU has identified the following areas for discussion in the EIS:

- Recreation
  - Park use and access
  - Parking
  - Special events
  - Safety
- Transportation
  - Construction traffic
  - Emergency services
  - Community cohesion/disruption

In addition, SPU has identified the following environmental elements for brief discussion or summary in the EIS: Earth, Air, Water, Plants and Animals, Energy, Environmental Health, Land and Shoreline Use, Cultural Resources, and Other Public Services and Utilities.

Scoping. SPU invites agencies, affected tribes, and members of the public to comment on the scope of the EIS. You may comment on alternatives, probable significant adverse impacts, mitigation measures, and licenses or other approvals that may be required. The methods and deadline for submitting comments on the scope of the EIS are as follows:

Respond via e-mail or in writing postmarked by June 16, 2011, to:

Seattle Public Utilities
Attention: Betty Meyer, SEPA Responsible Official
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
betty.meyer@seattle.gov

Respond in person at the public scoping meeting to be held at the following time and location:

June 7, 2011
6:00 p.m. – 8:00 p.m.

Seward Park Environmental & Audubon Center
5902 Lake Washington Boulevard South
Seattle, WA 98118

Project-related information can be reviewed on SPU's website: http://www.seattle.gov/CSO. Click on "Henderson Basin" under Large Storage Projects.

SEPA Responsible Official:

Betty Meyer
Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
(206) 386-1999
betty.meyer@seattle.gov

Signature: Betty Meyer Issue Date: May 26, 2011
Betty Meyer

For interpretation services please call **206-733-9396**
Para servicios de interpretación por favor llame al **206-733-9396**
Về dịch vụ phiên dịch xin gọi 206-733-9396

Henderson Basin 44 DS 3 5/19/2011

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DS Distribution List

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DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	Allyson Brooks, PhD		WA State Dept of Archaeology and Historic Preservation	P.O. Box 48343	Olympia	WA	98504-8343	1 STATE	7/27/200
✓	Bernard Jones	NW Regional Office	WA State Dept of Ecology	3190-160th Ave SE	Bellevue	WA	98008-5452	1 STATE	6/25/200
✓	SEPA UNIT	NW Regional Office	WA State Dept of Ecology	3190 160th Ave SE	Bellevue	WA	98008-5452	1 STATE	1/28/201
✓		Environmental Review Section	WA State Dept of Ecology	P.O. Box 47703	Olympia	WA	98504-7703	1 STATE	6/25/200
✓		SEPA/GMA Coordinator	WA State Dept of Ecology	P.O. Box 47600	Olympia	WA	98504-7600	1 STATE	7/27/200
✓	Ginger Holser	Area Habitat Biologist-SEPA Coordinator	WA State Dept of Fish Svs, Region 4	16018 Mill Creek Blvd.	Mill Creek	WA	98012-1296	1 STATE	6/25/200
✓	SEPA Coordinator	Habitat Management Division	WA State Dept of Fish.	P.O. Box 43155	Olympia	WA	98504	1 STATE	6/25/200
✓	SEPA Review	South Puget Sound Region	WA State Dept of Natural Res.	950 Farman Ave N	Enumclaw	WA	98022	1 STATE	6/25/200
✓		SEPA Center	WA State Dept of Natural Res.	P.O. Box 47015	Olympia	WA	98504-7015	1 STATE	6/25/200
✓		Environmental Quality/Compliance	WA State Dept of Natural Res.	1111 Washington St SE MS 47037	Olympia	WA	98504-7037	1 STATE	3/3/2010
✓		SEPA Review	WA State Dept of Public Health	101 Israel Road SE	Tumwater	WA	98501	1 STATE	6/25/200
✓	Kelly Cooper	Environmental Health Div.	WA State Dept of Health	P.O. Box 47820	Olympia	WA	98504-7820	1 STATE	11/10/201
✓		Environmental Affairs Office	WA State Dept of Transportation	P.O. Box 47331	Olympia	WA	98504	1 STATE	6/25/2009
✓		Planning Division	WA State Dept of Transportation	P.O. Box 330310	Seattle	WA	98133-9710	1 STATE	6/25/2009
✓	Ramin Pazooki	WSDOT NW Region	15700 Dayton Ave N		Seattle	WA	98133	1 STATE	5/20/2011
✓		WA Division Area Engineer	Federal Highway Administration	711 Capitol Way, Suite 501	Olympia	WA	98501-0943	2 FEDERAL	6/25/2009
✓		Transportation Program Specialist	Federal Transit Administration	915 2nd Ave. Suite 3142	Seattle	WA	98174-1002	2 FEDERAL	6/25/2009
✓		SEPA Review	National Marine Fisheries Services	510 Desmond Drive SE	Lacey	WA	98503	2 FEDERAL	6/25/2009
✓			US Ad Council Historic Preservation	Old Post Office Bldg - 1100 Pennsylvania Ave NW	Washington	DC	20004	2 FEDERAL	6/25/2009
✓		Regulatory	US Army Corps of Engineers	P.O. Box C-3755	Seattle	WA	98124-3755	2 FEDERAL	6/25/2009
✓	Alisa Ralph	Seattle District	US Army Corps of Engineers	4735 E. Marginal Way S.	Seattle	WA	98134-2384	2 FEDERAL	6/25/2009
✓	Laurence Schafer	Wildlife Services Director	US Dept. of Agriculture	720 O'Leary Street NW	Olympia	WA	98502	2 FEDERAL	6/25/2009

DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	NEPA Review Unit	US Environmental Protection Agency	1200 Sixth Avenue	ETPA 088	Seattle	WA	98101	2 FEDERAL	7/13/2010
✓		Western WA Fish & Wildlife Office	US Fish & Wildlife Service	510 Desmond Dr. SE Suite 102	Lacey	WA	98503-1263	2 FEDERAL	6/25/2009
✓		EIS Reviews	US Fish & Wildlife Service	16018 Mill Creek Blvd.	Mill Creek	WA	98012	2 FEDERAL	6/25/2009
✓	Jim Muck	USFWS & NOAA	US Fish & Wildlife Service	7600 Sandpoint Way	Seattle	W	98115	2 FEDERAL	6/25/2009
✓			Cascade Water Alliance	11400 SE 8th St, Suite 440	Bellevue	WA	98004	3 REGIONAL	6/25/2009
✓		Environmental Management	Port of Seattle	P.O. Box 1209	Seattle	WA	98111	3 REGIONAL	6/25/2009
✓		SEPA Review	Puget Sound Clean Air Agency	1904 Third Ave Suite 105	Seattle	WA	98101-3417	3 REGIONAL	7/27/2009
✓	Environmental Planning-OAP	Wastewater Treatment Div.	KC Dept of Natural Resources	201 S Jackson St - MS KCS NR 0505	Seattle	WA	98104	4 KING CO	6/25/2009
✓		Parks Environmental Review	KC Dept of Natural Resources	201 S. Jackson St	Seattle	WA	98104-3856	4 KING CO	6/25/2009
✓		Land Use Services Division	KC Dept of Natural Resources	900 Oaksdale Ave SW	Renton	WA	98057-5212	4 KING CO	7/27/2009
✓			KC Dept of Public Health	401 5th Avenue, Suite 1300	Seattle	WA	98104	4 KING CO	6/25/2009
✓		Drinking Water Program	KC Dept of Public Health	900 Oaksdale SW, Suite 100	Renton	WA	98057	4 KING CO	6/25/2009
✓	Rosemary Byrne		CNK-PH-1100	401 5th Avenue, 11th Floor	Seattle	WA	98104-1818	4 KING CO	1/26/2011
✓		Roads & Engineering	KC Dept of Transportation	201 S Jackson St - MS KCS 0313	Seattle	WA	98104	4 KING CO	6/25/2009
✓	Gary Kriedt	Environmental Planning	KC Dept of Transportation	201 S. Jackson St - MS KSC TR 0431	Seattle	WA	98104-3856	4 KING CO	6/25/2009
✓	Charlie Sundberg	Historic Preservation Program	KC Office of Strategic Planning	400 Yesler Way Suite 510	Seattle	WA	98104	4 KING CO	1/28/2010
✓			KC Regional Water Quality Committee	201 S Jackson St	Seattle	WA	98104	4 KING CO	6/25/2009
✓	John Rasmussen	Cultural Resources	Duwamish Tribe	4705 W. Marginal Way SW	Seattle	WA	98106	5 TRIBES	5/18/2010
✓	The Honorable Cecile Hansen	Chair	Duwamish Tribe	4705 W. Marginal Way SW	Seattle	WA	98106	5 TRIBES	5/18/2010
✓	Melissa Calvert	Wildlife & Cultural Resources Div.	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763	5 TRIBES	7/27/2009
✓	Environmental Reviewer	Fisheries Division	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763	5 TRIBES	2/4/2010
✓	Laura Murphy	Fisheries Division	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763	5 TRIBES	2/4/2010

DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	The Honorable John Daniels Jr.	Chair, Muckelshoot Tribal Council	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092	5 TRIBES	4/1/2009
✓	The Honorable Mike Evans	Chair, Snohomish Tribe	11014 19th Ave SE	Suite #8 PMB #101	Edmonds	WA	98208	5 TRIBES	12/16/201
✓		SEPA Review	Snoqualmie Tribe	P.O. Box 969	Snoqualmie	WA	98063	5 TRIBES	6/25/200
✓	The Honorable Bill Sweet	Chair, Snoqualmie Tribe of Indians	Snoqualmie Tribe	P.O. Box 280	Carnation	WA	98014	5 TRIBES	4/1/2009
✓	Earngy Sandstrom	Chair	Snoqualmoo Tribe	2613 Pacific St	Bellingham	WA	98226	5 TRIBES	4/1/2009
✓		SEPA Review	Suquamish Tribe	18490 Suquamish Way	Suquamish	WA	98392	5 TRIBES	6/25/200
✓			Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392	5 TRIBES	6/25/200
✓	The Honorable Leonard Forsman	Chair, Suquamish Trible Council	Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392	5 TRIBES	4/1/2009
✓		SEPA Review	Tulalip Tribes of WA	6700 Totem Beach Road	Tulalip	WA	98271-9714	5 TRIBES	5/22/201
✓	The Honorable Stanley G. Jones Sr.	Chair, Tulalip Board of Director	Tulalip Tribes of WA	6700 Totem Beach Road	Tulalip	WA	98271-9714	5 TRIBES	5/22/201
✓			United Indians of All Tribes	P.O. Box 99100	Seattle	WA	98199	5 TRIBES	6/25/200
✓	John Sheets	General Reference Services	Seattle Public Library	1000 4th Avenue	Seattle	WA	98104-1109	6 LIBRARY	6/30/201
✓		Governmental Publications Section	City of Seattle/Seattle Public Library	1000 4th Avenue	Seattle	WA	98104-1109	6 LIBRARY	6/25/200
✓		Governmental Publications	UW Library	P.O. Box 353900	Seattle	WA	98195-2900	6 LIBRARY	6/25/200
✓	Wei Cai	Beacon Hill Branch	City of Seattle/Seattle Public Library	2821 Beacon Ave S	Seattle	WA	98144-5813	6 LIBRARY	6/25/200
✓	Steve Del Vecchio	Columbia Branch	City of Seattle/Seattle Public Library	4721 Rainier Ave S	Seattle	WA	98118-1657	6 LIBRARY	6/25/200
✓	Valerie Garrett-Turner	Douglass-Truth Branch	City of Seattle/Seattle Public Library	2300 E Yesler Way	Seattle	WA	98122-6061	6 LIBRARY	6/25/200
✓	Dave Valencia	Madrona-Sally Goodmark Branch	City of Seattle/Seattle Public Library	1134 33rd Avenue	Seattle	WA	98122-5120	6 LIBRARY	6/25/200
✓	Daria Cal	New Holly Branch	City of Seattle/Seattle Public Library	7058 32nd Ave S	Seattle	WA	98118-6401	6 LIBRARY	6/25/200
✓	Daria Cal	Rainier Beach Branch	City of Seattle/Seattle Public Library	9125 Rainier Ave S	Seattle	WA	98118-5026	6 LIBRARY	6/25/200
✓		Andrea Faste	Groundswell Northwest	P.O. Box 17163	Seattle	WA	98127	7 COMMUNITY	9/16/200
✓			Central District Council	2301 S. Jackson St #208	Seattle	WA	98144	7 COMMUNITY	6/30/201
✓	Rob Martin		Columbia City Business Assoc	3827A So Edmunds St.	Seattle	WA	98118	7 COMMUNITY	6/25/200

DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	Brooks R. Kolb, President	Friends of Seattle's Olmstead Parks	P.O. Box 9884		Seattle	WA	98109-0884	7 COMMUNITY	5/20/2011
✓	Bill Farmer	Friends of Athletic Fields	P.O. Box 27575		Seattle	WA	98125	7 COMMUNITY	5/20/2011
✓	Thatcher Bailey	Seattle Parks Foundation	105 S. Main St. #235		Seattle	WA	98104	7 COMMUNITY	5/20/2011
✓	Rob Matson	Coordinator	Ballard Dist Council	5604 22nd Ave NW	Seattle	WA	98107	8 NEIGHBOR-HOOD	2/4/2010
✓	Jose Cervantes	Coordinator	Capitol Hill Dist Council	425 Harvard Avenue E	Seattle	WA	98102	8 NEIGHBOR-HOOD	2/4/2010
✓	Ted Divina	NDC Supervisor	Central Dist Council	2301 S. Jackson St #208	Seattle	WA	98144	8 NEIGHBOR-HOOD	6/30/2010
✓	Ron Angeles	Coordinator	Delridge Dist Council	5405 Delridge Way SW	Seattle	WA	98106	8 NEIGHBOR-HOOD	2/4/2010
✓	~~Sara Wysocki~~	~~Coordinator~~	Downtown Dist Council	201 Yesler Way Suite B	Seattle	WA	98104	8 NEIGHBOR-HOOD	2/4/2010
✓	Tim Durkan	Coordinator	Fremont Dist Council	908 N. 34th	Seattle	WA	98103-8815	8 NEIGHBOR-HOOD	2/4/2010
✓	Steve Louie, NDC	Grt Duwamish/	Beacon Hill Dist Council	2821 Beacon Ave S	Seattle	WA	98144	8 NEIGHBOR-HOOD	2/4/2010
✓	Beth Pflug	Coordinator	Greenwood Dist Council	8515 Greenwood Ave N	Seattle	WA	98103-3613	8 NEIGHBOR-HOOD	2/4/2010
✓	Ed Pottharst	Coordinator	Lake City Dist Council	12525 28th Ave NE	Seattle	WA	98125-4403	8 NEIGHBOR-HOOD	2/4/2010
✓	Christa Dumpys	NDC Supervisor	Queen Anne/Magnolia Dist Council	160 Roy St. Ste 100	Seattle	WA	98109	8 NEIGHBOR-HOOD	2/4/2010
✓	Yun Pitre	Coordinator	Southeast Dist Council	3815 S. Othello St Ste 105	Seattle	WA	98118	8 NEIGHBOR-HOOD	2/4/2010
✓	Karen Ko	NDC	University Dist Council	4534 University Way NE	Seattle	WA	98105-4511	8 NEIGHBOR-HOOD	2/4/2010
✓	Stan Lock	NDC	W. Seattle Dist Council	4205 SW Alaska St	Seattle	WA	98116-4413	8 NEIGHBOR-HOOD	2/4/2010
✓		Pacific Publishing	South Seattle Beacon		Seattle			9 PUBLICATION	3/5/2009
✓	**Betty Galarosa**	**SEPA PIC**	**City of Seattle**	**Dept of Planning & Development**	**SMT-18-62**			**11 CITY OF SEATTLE**	**11/2/2010**
✓	Mark Ellerbrook		City of Seattle	Office of Housing	SMT-57-00			11 CITY OF SEATTLE	7/21/2010
✓	Mark Jaeger		City of Seattle	Seattle Public Utilities	SMT-49-00			11 CITY OF SEATTLE	1/28/2010
✓	Paul Fleming		City of Seattle	Seattle Public Utilities	SMT-49-00			11 CITY OF SEATTLE	2/17/2011

DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	Bill Davis		City of Seattle	City Light	SMT 00-28-22			11 CITY OF SEATTLE	7/27/200
✓	Cheryl Eastberg		City of Seattle	Dept of Parks and Recreation	PK-01-01			11 CITY OF SEATTLE	6/25/200
✓	David Graves	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01			11 CITY OF SEATTLE	1/28/201
✓	Terry Dunning	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01			11 CITY OF SEATTLE	1/28/201
✓	Beverly Barnett		City of Seattle	Dept of Transportation	SMT 00-39-00			11 CITY OF SEATTLE	6/25/200
✓	Theresa C. Smith, PE	Street Use Division	City of Seattle	Dept of Transportation	SMT 00-30-00			11 CITY OF SEATTLE	3/2/2011
✓	Ron Borowski		City of Seattle	Dept of Transportation	SMT-00-39-00			11 CITY OF SEATTLE	6/25/200
✓	Melanie Coerver	Environmental Analyst	City of Seattle	Dept of Transportation	SMT-00-39-00			11 CITY OF SEATTLE	1/28/201
✓		Environmental Review Office	City of Seattle	Dept of Transportation	SMT-00-39-00			11 CITY OF SEATTLE	6/25/200
✓	Beth Chave	Landmarks Preservation Board	City of Seattle	DON/HISTORICAL PROG.	SMT 00-17-00			11 CITY OF SEATTLE	6/25/200
✓	Nikki Douce		City of Seattle	Fire Department	FD-44-04			11 CITY OF SEATTLE	6/25/200
✓	Bill Schrier		City of Seattle	Information Technology	SMT 00-27-00			11 CITY OF SEATTLE	6/25/200
✓		City Council	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	6/25/200
✓	The Honorable Sally Bagshaw	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Tim Burgess	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Sally Clark	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Richard Conlin	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Jean Godden	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Bruce Harrell	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Nick Licata	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Mike O'Brien	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010

DS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

	Agency or Name	Name or Address1	Name or Address2	Address3	City	State	Zip	Code	Date
✓	The Honorable Tom Rasmussen	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00			11 CITY OF SEATTLE	2/4/2010
✓	The Honorable Mike McGinn	Mayor	City of Seattle	Mayor's Office	CH-00-07-01			11 CITY OF SEATTLE	2/4/2010
✓	Kathryn L. Gerla	Senior Assistant City Attorney	City of Seattle	Office of the City Attorney	CH 00-04-01			11 CITY OF SEATTLE	6/30/2010

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DS Additional SEPA Notification

1. The DS was posted on the Seattle Department of Planning and Development's Land Use Bulletin on May 26, 2011.
2. The DS was posted on the Washington State Department of Ecology's SEPA Register on May 26, 2011.
3. The DS was published in the Daily Journal of Commerce on May 26, 2011.
4. The DS was published in the South Seattle Beacon on June 1, 2011.
5. The DS was mailed to agencies with jurisdiction and to organizations and individuals who have provided written request for such notices (see DS Distribution List in Appendix C).
6. The DS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower.

DS Additional Outreach

1. The DS was posted on SPU's North Henderson project website.
2. The DS was mailed to additional organizations SPU assumed might have an interest in the project (see DS Distribution List in Appendix C).
3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix C, approximately 1,700 total), notifying residents of the EIS scoping process; the date, time, and location of the scoping meeting; and the address and deadline for submitting scoping comments.
4. One of the postcards also was posted on the project sign at Seward Park.
5. An email announcing the public scoping meeting was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
6. A notice was posted on the City's online public outreach and engagement calendar.
7. Advanced meeting notice was provided in the Rainier Valley Post.
8. Meeting flyers were delivered to community centers, public libraries, synagogues, and post offices.
9. A community guide to the proposed project was developed for the scoping meeting to help explain the proposed project and the three alternatives to the public.
10. A comment form was developed for the scoping meeting, to help encourage meeting attendees to provide input and feedback.
11. Following the scoping meeting, the community guide and the comment form were posted on SPU's North Henderson project website.
12. Following the scoping meeting, a scoping summary report was prepared and posted on the SPU's North Henderson project website.

DEIS Notice of Availability

City of Seattle
Seattle Public Utilities

Henderson Basin 44 Combined Sewer Overflow (CSO) Reduction Project
Notice of Availability of Draft Environmental Impact Statement (Draft EIS)

Proponent
City of Seattle; Seattle Public Utilities (SPU)

Location
The proposed project would be located in Basin 44 in southeast Seattle. Basin 44 is the geographic area that contributes CSOs to Lake Washington *via* CSO Outfall 44 near Seward Park. The eastern boundary of Basin 44 is Lake Washington. Other Basin 44 boundaries are generally 52nd Avenue South to the west, South Hudson Street to the north, and South Morgan Street to the south. The 375-acre basin includes residential neighborhoods and Seward Park.

Most of the proposed project components would be located in Seward Park with some minor components at a site approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South.

Purpose
The proposed project would construct a 2.4-million-gallon underground storage tank to store excess sewage and stormwater flows from Basin 44 during heavy rain events. The underground storage tank would help prevent excess flows from discharging into Lake Washington. The proposed project also includes additional infrastructure, shoreline, and landscape improvements. Reducing the amount or frequency of stormwater and sewage flows discharging into the lake would help protect public health, improve water quality in Lake Washington, and comply with regulations that require the number of CSO events in Basin 44 be reduced to a long-term average of no more than one untreated discharge per year per outfall.

Proposed Alternatives
SPU identified the following alternatives for evaluation in this Draft EIS:

- Alternative 1 Storage under Seward Park Tennis Courts (the preferred alternative)
- Alternative 2 Storage under Seward Park Parking Lot
- No Action Alternative

Ray Hoffman, Director
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124-4018

Tel (206) 684-5851
Fax (206) 684-4631
TDD (206) 233-7241
ray.hoffman@seattle.gov

http://www.seattle.gov/util

An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided on request.

Alternatives 1 and 2: Alternatives 1 and 2 consist of the four main components listed below. Project components for the two alternatives would be similar; the main difference would be the location of the CSO storage tank and shoreline treatment. The project components for Alternatives 1 and 2 include the following:

- An underground, 2.4-million-gallon CSO storage tank and associated infrastructure
- Shoreline treatment
- Replacement of an existing CSO outfall pipe
- A transfer of Urban Park and Recreation Recovery (UPARR) grant protections and upland landscaping enhancements

The first three elements would be located in Seward Park. The fourth element would be located in a portion of Lake Washington Boulevard Park approximately one mile north of Seward Park near the intersection of Lake Washington Boulevard South and 53rd Avenue South.

No Action Alternative: Under the No Action Alternative, the CSO storage tank and associated infrastructure would not be built. The shoreline treatment next to the CSO storage tank and the transfer of UPARR grant protections would also not be implemented. The existing CSO outfall would eventually be replaced because it is in poor condition and was previously recommended for replacement. The outfall replacement is expected to occur between 2015 and 2020, under the SPU Outfall Rehabilitation Program.

Implementation Date
A decision about the proposed action would not be made until at least seven days after issuance of the Final EIS. SPU anticipates that the Final EIS would be issued in December 2012.

Final Action
The final action would be building the CSO storage tank and associated infrastructure, constructing the shoreline treatment, replacing the existing CSO outfall pipe, transferring the UPARR grant protections, and implementing the upland landscaping enhancements in the UPARR replacement area.

Date of Final Action
Construction is anticipated to occur from mid-2015 to the end of 2017.

Project Proponent and Lead Agency
City of Seattle
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

Project Information / Background Data Contact Person
Kathy Robertson, PE, SPU Project Manager
kathy.robertson@seattle.gov
Phone: (206) 733-9396

Date of Issuance of this Draft EIS
September 17, 2012

Submit EIS Comments to
Betty Meyer, SEPA Responsible Official
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
betty.meyer@seattle.gov

Due Date of Draft EIS Comments
Comments on the Draft EIS are invited and must be postmarked or e-mailed on or before midnight on October 17, 2012. Comments must be addressed to the SEPA Responsible Official noted above.

Public Hearing
The scheduled date for a public hearing regarding this Draft EIS is October 8, 2012, at the Seward Park Environmental & Audubon Center, 5902 Lake Washington Blvd South, Seattle, WA 98118, starting at 6:00 p.m. The purpose of the public hearing is to provide an opportunity for agencies, organizations, and individuals to review information concerning the Draft EIS and to present oral or written comments on the Draft EIS.

Availability of the Draft EIS and Background Materials
The Draft EIS is available for viewing at the following locations:

- Seattle Public Utilities, Director's Office Main Reception Area, Seattle Municipal Tower, Suite 4900, 700 Fifth Avenue, Seattle, Washington
- Seattle Central Library, General Reference Section
- Online at www.seattle.gov/cso/northhenderson

The Draft EIS can be downloaded for free from the www.seattle.gov/cso/northhenderson website or purchased on CD for $10 or in paper form for $170. Purchased copies will be mailed upon receipt of a check made payable to Seattle Public Utilities.

Additional background materials can be viewed on the www.seattle.gov/cso/northhenderson website. They may also be viewed in paper form by arranging a time with Kathy Robertson, PE, SPU Project Manager, at kathy.robertson@seattle.gov or (206) 733-9396.

Signature: Betty Meyer
Betty Meyer

Issue Date: September 17, 2012

For interpretation services please call 206-733-9396
Para servicios de interpretación por favor llame al 206-733-9396
Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-733-9396
Về dịch vụ phiên dịch xin gọi 206-733-9396

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DEIS Distribution List

(Begins on next page)

DEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	DEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
1	Tribes		✓			The Honorable Cecile Hansen	Chair	Duwamish Tribe	4705 W. Marginal Way SW	Seattle	WA	98106
2	Tribes				✓	Karen Walter	Fisheries Division Habitat Program	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763
3	Tribes			✓		Laura Murphy	Tribe Preservation Program	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763
4	Tribes			✓		The Honorable Virginia Cross	Chair, Muckelshoot Tribal Council	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092
5	Tribes		✓			The Honorable Mike Evans	Chair	Snohomish Tribe	11014 19th Ave SE; Suite #8 PMB #101	Edmonds	WA	98208
6	Tribes		✓				SEPA Review	Snoqualmie Tribe	P.O. Box 969	Snoqualmie	WA	98063
7	Tribes		✓			The Honorable Bill Sweet	Chair, Snoqualmie Tribe of Indians	Snoqualmie Tribe	P.O. Box 280	Carnation	WA	98014
8	Tribes		✓			Earngy Sandstrom	Chair	Snoqualmoo Tribe	2613 Pacific St	Bellingham	WA	98226
9	Tribes		✓				SEPA Review	Suquamish Tribe	18490 Suquamish Way	Suquamish	WA	98392
10	Tribes		✓					Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392
11	Tribes		✓			The Honorable Leonard Forsman	Chair, Suquamish Trible Council	Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392
12	Tribes		✓				SEPA Review	Tulalip Tribes of WA	6406 Marine Drive	Tulalip	WA	98271
13	Tribes		✓			The Honorable Melvin Sheldon	Chair, Tulalip Board of Director	Tulalip Tribes of WA	6406 Marine Drive	Tulalip	WA	98271
14	Tribes		✓					United Indians of All Tribes	P.O. Box 99100	Seattle	WA	98199
15	Federal	✓					WA Division Area Engineer	Federal Highway Administration	711 Capitol Way, Suite 501	Olympia	WA	98501-0943
16	Federal	✓					Transportation Program Specialist	Federal Transit Administration	915 2nd Avenue, Suite 3142	Seattle	WA	98174-1002
17	Federal			✓			SEPA Review	National Marine Fisheries Services	510 Desmond Drive SE	Lacey	WA	98503
18	Federal				✓	Heather Ramsay	Community Assistance Programs	National Park Service	909 First Ave	Seattle	WA	98104-1060
19	Federal		✓					US Ad Council Historic Preservation	Old Post Office Bldg - 1100 Pennsylvania Ave NW	Washington	DC	20004
20	Federal			✓			Regulatory	US Army Corps of Engineers	P.O. Box C-3755	Seattle	WA	98124-3755
21	Federal			✓		Alisa Ralph	Seattle District	US Army Corps of Engineers	4735 E. Marginal Way S.	Seattle	WA	98134-2384
22	Federal		✓			NEPA Review Unit		US Environmental Protection Agency	1200 Sixth Avenue, ETPA 088	Seattle	WA	98101
23	Federal			✓			Washington Fish & Wildlife Office	US Fish & Wildlife Service	510 Desmond Dr. SE Suite 102	Lacey	WA	98503-1263
24	Federal		✓			Jim Muck	USFWS & NOAA	US Fish & Wildlife Service	7600 Sandpoint Way	Seattle	W	98115
25	State			✓		Allyson Brooks, PhD		WA State Dept of Archaeology and Historic Preservation	P.O. Box 48343	Olympia	WA	98504-8343
26	State			✓		Larry Fisher	Area Habitat Biologist	WA State Dept of Fish and Wildlife	1775 12th Ave NW Suite 201	Issaquah	WA	98027
27	State			✓		SEPA Coordinator	Habitat Management Division	WA State Dept of Fish and Wildlife	P.O. Box 43155	Olympia	WA	98504

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Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	DEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
28	State		✓				SEPA Review	WA State Dept of Health	101 Israel Road SE	Tumwater	WA	98501
29	State		✓			Kelly Cooper	Environmental Health Div.	WA State Dept of Health	P.O. Box 47820	Olympia	WA	98504-7820
30	State		✓			SEPA Review	South Puget Sound Region	WA State Dept of Natural Resources	950 Farman Ave N	Enumclaw	WA	98022
31	State		✓				SEPA Center	WA State Dept of Natural Resources	P.O. Box 47015	Olympia	WA	98504-7015
32	State	✓					Planning Division	WA State Dept of Transportation	P.O. Box 330310	Seattle	WA	98133-9710
33	State	✓				Ramin Pazooki	NW Region	WA State Dept of Transportation	15700 Dayton Ave N	Seattle	WA	98133
34	State				✓			WA State SEPA Unit				
35	Regional	✓						Cascade Water Alliance	520 112th Ave NE, Suite 400	Bellevue	WA	98004
36	Regional	✓					Environmental Management	Port of Seattle	P.O. Box 1209	Seattle	WA	98111
37	Regional		✓				SEPA Review	Puget Sound Clean Air Agency	1904 Third Ave Suite 105	Seattle	WA	98101-3417
38	King County		✓			Environmental Planning-OAP	Wastewater Treatment Div.	King County Dept of Natural Resources	201 S Jackson St - MS KCS NR 0505	Seattle	WA	98104
39	King County	✓					Parks Environmental Review	King County Dept of Natural Resources	201 S. Jackson St	Seattle	WA	98104-3856
40	King County	✓					Land Use Services Division	King County Dept of Natural Resources	900 Oaksdale Ave SW	Renton	WA	98057-5212
41	King County	✓				Rosemary Byrne		King County Dept of Public Health	401 5th Avenue, 11th Floor; CNK-PH-1100	Seattle	WA	98104-1818
42	King County	✓				Drinking Water Program	Eastgate Environmental Health	King County Dept of Public Health	14350 SE Eastgate Way	Bellevue,	WA	98007
43	King County	✓						King County Dept of Public Health	401 5th Avenue, Suite 1300	Seattle	WA	98104
44	King County	✓					Roads & Engineering	King County Dept of Transportation	201 S Jackson St - MS KCS 0313	Seattle	WA	98104
45	King County	✓				Gary Kriedt	Environmental Planning	King County Dept of Transportation	201 S. Jackson St - MS KSC TR 0431	Seattle	WA	98104-3856
46	King County	✓				Charlie Sundberg	Historic Preservation Program	King County Office of Strategic Planning	400 Yesler Way Suite 510	Seattle	WA	98104
47	King County		✓					King County Regional Water Quality Committee	201 S Jackson St	Seattle	WA	98104
48	City of Seattle	✓				Laurie Geissinger	Environmental Compliance	City of Seattle	City Light	SMT 00-28-22		
49	City of Seattle	✓				Bill Davis		City of Seattle	City Light	SMT 00-28-22		
50	City of Seattle			✓		David Graves	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		
51	City of Seattle			✓		Cheryl Eastberg	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		
52	City of Seattle			✓		Terry Dunning	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		

DEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	DEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
53	City of Seattle				✓	Betty Galarosa	SEPA PIC	City of Seattle	Dept of Planning & Development	SMT-18-62		
54	City of Seattle		✓			Beverly Barnett		City of Seattle	Dept of Transportation	SMT 00-39-00		
55	City of Seattle		✓			Theresa C. Smith, PE	Street Use Division	City of Seattle	Dept of Transportation	SMT 00-30-00		
56	City of Seattle		✓			Ron Borowski		City of Seattle	Dept of Transportation	SMT-00-39-00		
57	City of Seattle		✓			Melanie Coerver	Environmental Analyst	City of Seattle	Dept of Transportation	SMT-00-39-00		
58	City of Seattle		✓				Environmental Review Office	City of Seattle	Dept of Transportation	SMT-00-39-00		
59	City of Seattle			✓		Karen Gordon	Landmarks Preservation Board	City of Seattle	DON/HISTORICAL PROG.	SMT 00-17-00		
60	City of Seattle	✓				Nikki Douce		City of Seattle	Fire Department	FD-44-04		
61	City of Seattle	✓				Bill Schrier		City of Seattle	Information Technology	SMT 00-27-00		
62	City of Seattle		✓				City Council	City of Seattle	Legislative Dept	CH 02-10-00		
63	City of Seattle		✓			The Honorable Sally Bagshaw	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
64	City of Seattle		✓			The Honorable Tim Burgess	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
65	City of Seattle		✓			The Honorable Sally Clark	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
66	City of Seattle		✓			The Honorable Richard Conlin	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
67	City of Seattle		✓			The Honorable Jean Godden	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
68	City of Seattle		✓			The Honorable Bruce Harrell	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
69	City of Seattle		✓			The Honorable Nick Licata	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
70	City of Seattle		✓			The Honorable Mike O'Brien	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
71	City of Seattle		✓			The Honorable Tom Rasmussen	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
72	City of Seattle		✓			The Honorable Mike McGinn	Mayor	City of Seattle	Mayor's Office	CH-00-07-01		
73	City of Seattle	✓				Quinnie Tan		City of Seattle	Office of Housing	SMT-57-00		
74	City of Seattle			✓		Bob Tobin	Assistant City Attorney	City of Seattle	Office of the City Attorney	CH 00-04-01		

DEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	DEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
75	City of Seattle	✓				Mark Jaeger		City of Seattle	Seattle Public Utilities	SMT-49-00		
76	City of Seattle	✓				Paul Fleming		City of Seattle	Seattle Public Utilities	SMT-49-00		
77	Neighborhood Service Center	✓				Stan Lock	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144
78	Neighborhood Service Center	✓				Christa Dumpys	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144
79	Neighborhood Service Center	✓				Tim Durkan	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144
80	Neighborhood Service Center	✓				Rob Mattson	Coordinator, Ballard	North Region Team	5604 22nd Ave NW	Seattle	WA	98107
81	Neighborhood Service Center	✓				Thomas Whittemore	Coordinator, Lake City	North Region Team	12525 28th Ave NE (2nd Foor)	Seattle	WA	98125
82	Neighborhood Service Center	✓				Karen Ko	Coordinator, U District	North Region Team	4534 University Way NE	Seattle	WA	98105-4511
83	Neighborhood Service Center			✓		Steve Louie, Yun Pitre, Ed Pottharst		South Region Coordinators	2801 SW Thistle St.	Seattle	WA	98126
84	Library			✓		Public Review Documents	General Reference Services	Seattle Public Library	1000 4th Avenue	Seattle	WA	98104-1109
85	Library			✓		Wei Cai	Beacon Hill Branch	Seattle Public Library	2821 Beacon Ave S	Seattle	WA	98144-5813
86	Library			✓		Steve Del Vecchio	Columbia Branch	Seattle Public Library	4721 Rainier Ave S	Seattle	WA	98118-1657
87	Library			✓		Daria Cal	New Holly Branch	Seattle Public Library	7058 32nd Ave S	Seattle	WA	98118-6401
88	Library			✓		Daria Cal	Rainier Beach Branch	Seattle Public Library	9125 Rainier Ave S	Seattle	WA	98118-5026
89	Library		✓				Governmental Publications	UW Library	P.O. Box 353900	Seattle	WA	98195-2900
90	Community	✓						Central District Council	2301 S. Jackson St #208	Seattle	WA	98144
91	Community	✓				Rob Martin		Columbia City Business Assoc	3827A So Edmunds St.	Seattle	WA	98118
92	Community	✓				Mariana Quarnstrom		Friends of Martha Washington Park	5767 S. Oaklawn Place	Seattle	WA	98118
93	Community				✓	Jennifer Ott		Friends of Seattle's Olmsted Parks	P.O. Box 9884	Seattle	WA	98109-0884
94	Community				✓			Friends of Seward Park	5900 Lk Washington Blvd. S.	Seattle	WA	98118
95	Community	✓				John Barber, Chairman		Friends of Street Ends	3421 E. Superior St.	Seattle	WA	98122-6557
96	Community	✓				Andrea Faste		Groundswell Northwest	P.O. Box 17163	Seattle	WA	98127
97	Community	✓				Dawn Hemminger		Groundswell Northwest	P.O. Box 17163	Seattle	WA	98127
98	Community	✓						Lakewood Seward Park CC	6315 Rainier Ave S.	Seattle	WA	98118-2571
99	Community	✓						Lakewood Seward Park CC	4916 S. Angeline St.	Seattle	WA	98118
100	Community	✓						Mt. Baker Community Club	2811 Mr. Rainier Dr. S	Seattle	WA	98144

DEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	DEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
101	Community		✓			Thatcher Bailey		Seattle Parks Foundation	105 S. Main St. #235	Seattle	WA	98104
102	Commented		✓				barbmaher@msn.com	Barb Maher	6014 Lake Shore Dr. S	Seattle	WA	98118
103	Commented		✓				lizzyjk@comcast.net	Elizabeth Kinerk	5926 Seward Park Avenue S	Seattle	WA	98118
104	Commented		✓				fliporeilly@gmail.com	Flip O'Reilly	4847 Graham Street S	Seattle	WA	98118
105	Commented		✓				julio.moran@seattle.gov	Julio Morgan, Jr.	4401 S Dawson St	Seattle	WA	98118
106	Commented		✓				pauls@cascadia.com	Paul S. Aleinikoff	6216 Lakeshore Dr. S	Seattle	WA	98118-3040
107	Commented		✓				bobakemi@comcast.net	Robert Smith	9835 Arrowsmith Ave S	Seattle	WA	98118
	Total	36	45	20	6							

DEIS Additional SEPA Notification

1. The Notice of Availability was posted on the Seattle Department of Planning and Development's Land Use Bulletin on September 17, 2012.
2. The Notice of Availability was posted on the Washington State Department of Ecology's SEPA Register on September 17, 2012.
3. The Notice of Availability was published in the Daily Journal of Commerce on September 17, 2012.
4. The Notice of Availability was published in the Seattle Times on September 17, 2012.
5. The Notice and the DEIS were mailed to agencies with jurisdiction, organizations and individuals who requested copies, and organizations and individuals who commented during the scoping process (see DEIS Distribution Lists in Appendix C).
6. The DEIS was available for public review at SPU's main office on the 49th floor of the Seattle Municipal Tower and the Seattle Central Library.

DEIS Additional Outreach

1. The Notice of Availability and DEIS were posted on SPU's North Henderson project website.
2. The Notice of Availability, or the Notice of Availability and DEIS, were mailed to additional individuals and organizations SPU assumed might have an interest in the project (see Notice of Availability and DEIS Distribution Lists in Appendix C).
3. Postcards were mailed to every residence in Basins 44 and 45 (see map in Appendix C, approximately 1,700 total), notifying residents of the date, time, and location of the DEIS public hearing; providing the address and deadline for submitting comments on the DEIS; and providing the address of SPU's North Henderson project website for more information.
4. An email announcing the public hearing was sent to people who had previously requested to be included on the North Henderson listserv to receive updates on the North Henderson CSO reduction projects.
5. SPU staff contacted the individuals whose property adjoins the tennis courts to ensure they knew about the DEIS and the public hearing.

FEIS Distribution List

(Begins on next page)

FEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	FEIS Notification Type				Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
		Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD							
1	Tribes		✓			The Honorable Cecile Hansen	Chair	Duwamish Tribe	4705 W. Marginal Way SW	Seattle	WA	98106
2	Tribes				✓	Karen Walter	Fisheries Division Habitat Program	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763
3	Tribes			✓		Laura Murphy	Tribe Preservation Program	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092-9763
4	Tribes			✓		The Honorable Virginia Cross	Chair, Muckelshoot Tribal Council	Muckleshoot Tribe	39015 172nd Ave SE	Auburn	WA	98092
5	Tribes		✓			The Honorable Mike Evans	Chair, Snohomish Tribe	11014 19th Ave SE	Suite #8 PMB #101	Edmonds	WA	98208
6	Tribes		✓				SEPA Review	Snoqualmie Tribe	P.O. Box 969	Snoqualmie	WA	98063
7	Tribes		✓			The Honorable Bill Sweet	Chair, Snoqualmie Tribe of Indians	Snoqualmie Tribe	P.O. Box 280	Carnation	WA	98014
8	Tribes		✓			Earngy Sandstrom	Chair	Snoqualmoo Tribe	2613 Pacific St	Bellingham	WA	98226
9	Tribes		✓				SEPA Review	Suquamish Tribe	18490 Suquamish Way	Suquamish	WA	98392
10	Tribes		✓					Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392
11	Tribes		✓			The Honorable Leonard Forsman	Chair, Suquamish Trible Council	Suquamish Tribe	P.O. Box 498	Suquamish	WA	98392
12	Tribes		✓				SEPA Review	Tulalip Tribes of WA	6406 Marine Drive	Tulalip	WA	98271
13	Tribes		✓			The Honorable Melvin Sheldon	Chair, Tulalip Board of Directors	Tulalip Tribes of WA	6406 Marine Drive	Tulalip	WA	98271
14	Tribes		✓					United Indians of All Tribes	P.O. Box 99100	Seattle	WA	98199
15	Federal	✓					WA Division Area Engineer	Federal Highway Administration	711 Capitol Way, Suite 501	Olympia	WA	98501-0943
16	Federal	✓					Transportation Program Specialist	Federal Transit Administration	915 2nd Ave. Suite 3142	Seattle	WA	98174-1002
17	Federal			✓			SEPA Review	National Marine Fisheries Services	510 Desmond Drive SE	Lacey	WA	98503
18	Federal				✓	Heather Ramsay	National Park Service	State & Local Assistance Programs	909 First Avenue	Seattle	WA	98104-1060
19	Federal		✓					US Ad Council Historic Preservation	Old Post Office Bldg - 1100 Pennsylvania Ave NW	Washington	DC	20004
20	Federal			✓			Regulatory	US Army Corps of Engineers	P.O. Box C-3755	Seattle	WA	98124-3755
21	Federal			✓		Alisa Ralph	Seattle District	US Army Corps of Engineers	4735 E. Marginal Way S.	Seattle	WA	98134-2384
22	Federal		✓			NEPA Review Unit	US Environmental Protection Agency	1200 Sixth Avenue	ETPA 088	Seattle	WA	98101
23	Federal			✓			Washington Fish & Wildlife Office	US Fish & Wildlife Service	510 Desmond Dr. SE Suite 102	Lacey	WA	98503-1263
24	Federal		✓			Jim Muck	USFWS & NOAA	US Fish & Wildlife Service	7600 Sandpoint Way	Seattle	W	98115

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#	Category	Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD	Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
25	State			✓		Allyson Brooks, PhD		WA State Dept of Archaeology and Historic Preservation	P.O. Box 48343	Olympia	WA	98504-8343
26	State			✓		Larry Fisher	WDFW Area Habitat Biologist	1775 12th Ave NW	Suite 201	Issaquah	WA	98027
27	State			✓		SEPA Coordinator	Habitat Management Division	WA State Dept of Fish.	P.O. Box 43155	Olympia	WA	98504
28	State		✓				SEPA Review	WA State Dept of Public Health	101 Israel Road SE	Tumwater	WA	98501
29	State		✓			Kelly Cooper	Environmental Health Div.	WA State Dept of Health	P.O. Box 47820	Olympia	WA	98504-7820
30	State		✓			SEPA Review	South Puget Sound Region	WA State Dept of Natural Res.	950 Farman Ave N	Enumclaw	WA	98022
31	State		✓				SEPA Center	WA State Dept of Natural Res.	P.O. Box 47015	Olympia	WA	98504-7015
32	State	✓					Planning Division	WA State Dept of Transportation	P.O. Box 330310	Seattle	WA	98133-9710
33	State	✓				Ramin Pazooki	WSDOT NW Region	15700 Dayton Ave N		Seattle	WA	98133
34	State				✓	Washington State SEPA Unit						
35	Regional	✓					Cascade Water Alliance	520 112th Ave NE	Suite 400	Bellevue	WA	98004
36	Regional	✓					Environmental Management	Port of Seattle	P.O. Box 1209	Seattle	WA	98111
37	Regional		✓				SEPA Review	Puget Sound Clean Air Agency	1904 Third Ave Suite 105	Seattle	WA	98101-3417
38	King County		✓			Environmental Planning-OAP	Wastewater Treatment Div.	KC Dept of Natural Resources	201 S Jackson St - MS KCS NR 0505	Seattle	WA	98104
39	King County	✓					Parks Environmental Review	KC Dept of Natural Resources	201 S. Jackson St	Seattle	WA	98104-3856
40	King County	✓					Land Use Services Division	KC Dept of Natural Resources	900 Oaksdale Ave SW	Renton	WA	98057-5212
41	King County	✓				Rosemary Byrne		CNK-PH-1100	401 5th Avenue, 11th Floor	Seattle	WA	98104-1818
42	King County	✓					Drinking Water Program	Eastgate Environmental Health	14350 SE Eastgate Way	Bellevue,	WA	98007
43	King County	✓						KC Dept of Public Health	401 5th Avenue, Suite 1300	Seattle	WA	98104
44	King County	✓					Roads & Engineering	KC Dept of Transportation	201 S Jackson St - MS KCS 0313	Seattle	WA	98104
45	King County	✓				Gary Kriedt	Environmental Planning	KC Dept of Transportation	201 S. Jackson St - MS KSC TR 0431	Seattle	WA	98104-3856
46	King County	✓				Charlie Sundberg	Preservation Planner	KC Historic Preservation	201 S. Jackson St. KSC-NR-0700	Seattle	WA	98104
47	King County		✓					KC Regional Water Quality Committee	201 S Jackson St	Seattle	WA	98104

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#	Category	Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD	Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
48	City of Seattle	✓				Laurie Geissinger	Environmental Compliance	City of Seattle	City Light	SMT 00-28-22		
49	City of Seattle	✓				Bill Davis		City of Seattle	City Light	SMT 00-28-22		
50	City of Seattle		✓			Margaret Duncan		City of Seattle	City Light	SMT 00-28-22		
51	City of Seattle			✓		David Graves	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		
52	City of Seattle			✓		Cheryl Eastberg	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		
53	City of Seattle			✓		Terry Dunning	Planning & Development Division	City of Seattle	Dept of Parks and Recreation	PK-01-01		
54	City of Seattle		✓			Kevin Stoops	Budget & Administrative Services	City of Seattle	Dept of Parks and Recreation	PK-01-01		
55	City of Seattle				✓	Betty Galarosa	SEPA PIC	City of Seattle	Dept of Planning & Development	SMT-18-62		
56	City of Seattle		✓			Diane Sugimura	Director	City of Seattle	Dept of Planning & Development	SMT-18-00		
57	City of Seattle		✓			Beverly Barnett		City of Seattle	Dept of Transportation	SMT 00-39-00		
58	City of Seattle		✓			Theresa C. Smith, PE	Street Use Division	City of Seattle	Dept of Transportation	SMT 00-30-00		
59	City of Seattle		✓			Ron Borowski		City of Seattle	Dept of Transportation	SMT-00-39-00		
60	City of Seattle		✓				Environmental Review Office	City of Seattle	Dept of Transportation	SMT-00-39-00		
61	City of Seattle		✓			Cristina VanValkenburgh	Mobility Programs	City of Seattle	Dept of Transportation	SMT-00-39-00		
62	City of Seattle		✓			Dongho Chang	Traffic Operation	City of Seattle	Dept of Transportation	SMT-00-39-00		
63	City of Seattle		✓			Sandy Gurkewitz	Environmental Management	City of Seattle	Dept of Transportation	SMT-00-39-00		
64	City of Seattle		✓			Ron Borowski	Policy and Planning	City of Seattle	Dept of Transportation	SMT-00-39-00		
65	City of Seattle		✓			Beverly Barnett	Street Use Division	City of Seattle	Dept of Transportation	SMT 00-39-00		
66	City of Seattle			✓		Karen Gordon	Landmarks Preservation Board	City of Seattle	DON/HISTORICAL PROG.	SMT 00-17-00		
67	City of Seattle		✓			Julie Tobin	Office of the Mayor	City of Seattle	Economic Development	CH-07-01		
68	City of Seattle		✓			Brian Surrat		City of Seattle	Economic Development	SMT-57-52		
69	City of Seattle		✓			Kyle Joyce		City of Seattle	Finance & Admin Svcs.	SMT-52-01		
70	City of Seattle	✓				Nikki Douce		City of Seattle	Fire Department	FD-44-04		

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71	City of Seattle		✓			Gregory Dean, Fire Chief	Office of the Chief	City of Seattle	Fire Department	FD-44-04		
72	City of Seattle	✓				Bill Schrier		City of Seattle	Information Technology	SMT 00-27-00		
73	City of Seattle		✓				City Council	City of Seattle	Legislative Dept	CH 02-10-00		
74	City of Seattle		✓			The Honorable Sally Bagshaw	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
75	City of Seattle		✓			The Honorable Tim Burgess	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
76	City of Seattle		✓			The Honorable Sally Clark	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
77	City of Seattle		✓			The Honorable Richard Conlin	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
78	City of Seattle		✓			The Honorable Jean Godden	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
79	City of Seattle		✓			The Honorable Bruce Harrell	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
80	City of Seattle		✓			The Honorable Nick Licata	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
81	City of Seattle		✓			The Honorable Mike O'Brien	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
82	City of Seattle		✓			The Honorable Tom Rasmussen	Councilmember	City of Seattle	Legislative Dept	CH 02-10-00		
83	City of Seattle		✓			The Honorable Mike McGinn	Mayor	City of Seattle	Mayor's Office	CH-00-07-01		
84	City of Seattle	✓				Quinnie Tan		City of Seattle	Office of Housing	SMT-57-00		
85	City of Seattle			✓		Bob Tobin	Assistant City Attorney	City of Seattle	Office of the City Attorney	CH 00-04-01		
86	City of Seattle		✓			Michael Quinn	Deputy Chief of Staff	City of Seattle	Seattle Police	JC-05-01		
87	City of Seattle		✓			Christy Gough		City of Seattle	Seattle Police	JC-05-01		
88	City of Seattle	✓				Mark Jaeger		City of Seattle	Seattle Public Utilities	SMT-49-00		
89	City of Seattle	✓				Paul Fleming		City of Seattle	Seattle Public Utilities	SMT-49-00		
90	Neighborhood Service Center	✓				Stan Lock	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144
91	Neighborhood Service Center	✓				Christa Dumpys	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144
92	Neighborhood Service Center	✓				Tim Durkan	Coordinator, Central	Central Region Team	2301 S. Jackson St #208	Seattle	WA	98144

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94	Neighborhood Service Center	✓				Thomas Whittemore	Coordinator, Lake City	North Region Team	12525 28th Ave NE (2nd Foor)	Seattle	WA	98125
95	Neighborhood Service Center	✓				Karen Ko	Coordinator, U District	North Region Team	4534 University Way NE	Seattle	WA	98105-4511
96	Neighborhood Service Center			✓		Steve Louie, Yun Pitre, Ed Pottharst	South Region Coordinators		2801 SW Thistle St.	Seattle	WA	98126
97	Library			✓		Public Review Documents	Quick Information Center	Seattle Public Library	LB-03-01	Seattle	WA	98104-1109
98	Library			✓		Steve Del Vecchio	Columbia Branch	Seattle Public Library	4721 Rainier Ave S	Seattle	WA	98118-1657
99	Library			✓		Daria Cal	New Holly Branch	Seattle Public Library	7058 32nd Ave S	Seattle	WA	98118-6401
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102	Community	✓						Central District Council	2301 S. Jackson St #208	Seattle	WA	98144
103	Community	✓				Rob Martin		Columbia City Business Assoc	3827A So Edmunds St.	Seattle	WA	98118
104	Community	✓				Mariana Quarnstrom	Friends of Martha Washington Park		5767 S. Oaklawn Place	Seattle	WA	98118
105	Community				✓	Jennifer Ott	Friends of Seattle's Olmsted Parks	P.O. Box 9884		Seattle	WA	98109-0884
106	Community				✓	Friends of Seward Park			5900 Lk Washington Blvd. S.	Seattle	WA	98118
107	Community	✓				John Barber, Chairman	Friends of Street Ends	3421 E. Superior St.		Seattle	WA	98122-6557
108	Community	✓					Andrea Faste	Groundswell Northwest	P.O. Box 17163	Seattle	WA	98127
109	Community	✓				Dawn Hemminger	Groundswell Northwest		P.O. Box 17163	Seattle	WA	98127
110	Community	✓				Lakewood Seward Park CC			4916 S. Angeline St.	Seattle	WA	98118
111	Community	✓				Mt. Baker Community Club			2811 Mr. Rainier Dr. S	Seattle	WA	98144
112	Community		✓			Thatcher Bailey	Seattle Parks Foundation	105 S. Main St. #235		Seattle	WA	98104
113	Commented			✓		Allan Smith	4709 S Orcas			Seattle	WA	98118
114	Commented		✓			Barb Maher			6014 Lakeshore DrIve S	Seattle	WA	98118
115	Commented		✓			Betina Simmons Blaine	5229 S. Mayflower St			Seattle	WA	98118
116	Commented		✓			Dr. Jeffrey Schouten/Daniel Sparler	5920 Seward Park Ave S			Seattle	WA	98118
117	Commented		✓			Elizabeth & Dan Kinerk			5926 Seward Park Ave S	Seattle	WA	98118
118	Commented		✓			Flip O'Reilly			4847 Graham St South	Seattle	WA	98118
119	Commented			✓		Gail Gatton, Director	Seward Park Audubon Center	5902 Lake Washington Blvd S		Seattle	WA	98118
120	Commented			✓		Jacob Greenberg	6020 Lakeshore Dr S			Seattle	WA	98118

FEIS DISTRIBUTION: JURISDICTIONAL LIST and INTERESTED PARTIES LIST
Henderson Basin 44 Combined Sewer Overflow (CSO)

#	Category	Notice Only	Notice + CD	Notice + Hard Copy	Notice + Hard Copy + CD	Agency or Name	Name or Address 1	Name or Address 2	Address 3	City	State	Zip
121	Commented		✓			Jeannie O'Brien	4224 51st Ave S			Seattle	WA	98118
122	Commented			✓		John Bell	6036 Seward Park Ave S.			Seattle	WA	98118
123	Commented		✓			Julio Morgan, Jr.			4401 S Dawson St	Seattle	WA	98118
124	Commented		✓			Marcia Bartholme	5838 Seward Park Ave S			Seattle	WA	98118
125	Commented		✓			Mark Early	7738 34th Ave NW			Seattle	WA	98117
126	Commented			✓		Maura Whalen	5215 S Orcas Street			Seattle	WA	98118
127	Commented		✓			Paul Miyake	4848 S Graham St			Seattle	WA	98118
128	Commented		✓			Paul S. Aleinikoff			6216 Lakeshore Drive S	Seattle	WA	98118-3040
129	Commented		✓			Paul Talbert	4601 S. Brandon St			Seattle	WA	98118
130	Commented			✓		Phillip Ginsberg	6034 Lakeshore Drive S			Seattle	WA	98118
131	Commented		✓			Richard Ranhoffer	5912 Seward Park Ave			Seattle	WA	98118
132	Commented		✓			Robert Smith			9835 Arrowsmith Ave S	Seattle	WA	98118
133	Commented		✓			Tom and Christine O'Connor	5211 57th Ave S			Seattle	WA	98118
134	Commented		✓			WA State Department of Natural Resources	Derrick Toba, Assistant Division Manager, Shoreline District Aquatics	S Puget Sound Region, 950 Farman Ave N		Enumclaw	WA	98022-9282
	Total	*35*	*68*	*25*	*6*							

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Appendix B Draft EIS Comments and Responses

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SEWARD PARK ENVIRONMENTAL & Audubon CENTER

TO: Betty Meyer, SEPA Responsible Official
Seattle Public Utilities

FROM: Gail Gatton, Director
Seward Park Environmental & Audubon Center

SUBJECT: Comments on Draft EIS for Henderson Basin 44 CSO Reduction Project

DATE: October 17, 2012

Thank you for the opportunity to provide comments regarding the Draft EIS issued September 2012 regarding SPU's selection of a preferred alternative for siting a 2.4 million gallon storage tank and associated infrastructure under the tennis courts located at the entrance of Seward Park. We have been aware of this project for some time and are sensitive to its impact on the thousands of people who utilize the park each year and the surrounding community. We also appreciate that SPU has held many public meetings on this project and has shown a willingness to listen to public input. I have provided comments below in two categories: operations and ecological.

1 **OPERATIONS:** From an operations perspective, Alternative 1 is a clear preferred choice. The impact to users of the park will be less and for a shorter duration of time. Construction impacts occur closer to existing facilities (e.g., storage pipe and sewer lines), are more removed from the many children and families who play on the world class playground, and will result in much improved recreational facilities (tennis courts).

2 During construction, which results in the loss of nearly all parking at the entrance of the park, we suggest not only good signage directing people to the parking available at the top of the park, but also increased police patrols at the top of the park and perhaps temporary lighting. For those of us who work at the park, leaving our cars unattended for hours at the top of the park feels like a break-in waiting to happen. We also work hours throughout the year that will require retrieving our vehicles after dark, sometimes late in the evening.

3 The Audubon Center was open during construction of the playground and there was a severe impact to our programs during this time period. Imagine trying to teach water chemistry to recalcitrant 7th graders while jackhammers break through cement and rock! Or hold the attention of a pre-schooler while big machines drop boulders into place. As an example, Toddler Tales & Trails, one of our most popular programs and one we have provided since we opened our doors in 2008, saw a 50 percent decline in attendance in 2010 during construction of the playground.

The Center serves between 15,000 and 20,000 people each year through a wide variety of programs for schools and the community. We raise all of the funds necessary to operate through earned income (e.g., store sales, rentals, program fees) and contributed income (individual donors, foundations, etc). Earned income accounts for approximately 10 percent of our revenue sources. Our ability to serve thousands of children and families is what inspires others to contribute the remaining 90 percent to our organization. The financial impact of either alternative will be very real for the Center, either through reduced earned income or fewer donations because we are able to serve fewer people. Therefore the alternative that takes the least amount of time is best for the Center from an operations perspective.

4 **ECOLOGICAL:** No matter which alternative is selected, we strongly recommend that the bulkhead is removed and a salmon-friendly shoreline is established and re-vegetated along both the parking lot and tennis courts. This work will have the most significant and beneficial ecological impact to the park as it will provide riparian habitat that will allow for the return of the keystone species of salmon to the park. Adding salmon habitat and therefore salmon will be directly beneficial to the conservation of bird species in Seward Park. The salmon eggs and fry will provide a food resource and the shoreline vegetation will provide essential nesting sites for many shorebirds and songbirds.

5 Habitat impacts for both Alternative 1 and Alternative 2 are provided in the table below.

	HABITAT REMOVAL	HABITAT RESTORATION
Alternative 1	The west side of the tennis courts contains some of the best habitat resources in this developed portion of the park. Currently there are populations of songbirds utilizing this area including the red-breasted sapsucker. This will have the greatest short-term ecological impact with the removal of the large trees in that area.	In the long term, this is isolated and fragmented habitat and provides less value than the proposed restored habitat of Alternative 2 which is immediately adjacent to the magnificent forest.
Alternative 2	The current trees offer much less value as habitat. Their removal will have limited ecological impact, especially for birds.	Long term restoration has significant ecological value. Removal of the non-native trees and replacing them with forest species from the VMP will serve to grow the contiguous acres of the magnificent forest and improve habitat for songbirds and shorebirds.

Response to Audubon Comment 1

Comment noted. Sections 4 and 1.4 of the Final EIS confirm that the Tennis Courts Alternative would have less of an impact on the Audubon Center, the clay studio, the playground, the picnic shelter, and parking. Section 1.4 also notes that the Tennis Courts Alternative has a greater impact on the park neighbors and that selection of the preferred alternative is a significant area of controversy. A final decision will be made by the City Council during the proceedings in 2013 that are required to address Initiative 42 and the City's Land Use Code.

Response to Audubon Comment 2

Suggested construction-phase mitigation is noted. SPU is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA requirements. Construction-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either during the City Council proceedings that are required to address Initiative 42 and the City's Land Use Code or during negotiations with Seattle Parks that are part of the process to obtain a Revocable Use Permit. SPU will continue to work with Parks to develop a facility that fulfills the City's legal obligations for the reduction of sewage discharges while addressing short- and long-term recreational impacts at the site. The project will meet all applicable permit requirements from all applicable regulatory entities.

Response to Audubon Comment 3

Comment noted. Although an analysis of potential economic impacts is not required by SEPA and was excluded from the scope of the EIS, Audubon Center and clay studio usage and financial information have been added to the Final EIS to further clarify the construction impacts on recreation. Sections 4.2.1.1 and 4.2.2.1 have been revised to clarify the construction-related impacts that noise, dust, and parking lot closures would have on the number of Audubon Center visitors and Audubon Center and clay studio program participants; the impact this might have on income earned from program tuition, building rentals, and store sales; and the impact this might have on revenue from individual and foundation grants and donations. The Parking Lot Alternative would have more impact than the Tennis Courts Alternative on recreation usage of the Audubon Center and clay studio, because of the proximity of these facilities to the Parking Lot Alternative construction site. A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code.

Response to Audubon Comment 4

Comment noted. As described in Section 3.1.1.2, there are advantages and disadvantages for the shoreline treatment options presented in the EIS. Those options will be further evaluated during the project design phase and in consultation with the resource and regulatory agencies. The selected shoreline treatment option will apply only to the selected alternative.

Response to Audubon Comment 5

The habitat impact comparisons shown in the table are consistent with the discussion in Section 7 of the EIS. The habitat restoration at each site will be limited to recreating the hardscapes that exist today (the tennis court or parking lot) and some replanting to areas disturbed by the project construction. The number of trees that will be incorporated into either site restoration will be limited. Trees will not be planted along the shoreline due to the constraints of the tank. Most of the replanting along the shoreline will be in the form of shrubs and other forms of overhanging shoreline vegetation, and not necessarily trees. Habitat restoration is not specifically proposed for areas outside of the footprint of the project. The replanted shoreline areas will provide habitat for songbirds and shorebirds, but these areas will not be contiguous with the forest areas on other portions of the park.

Meyer, Betty

From: Marcia Bartholme [mbeta@comcast.net]
Sent: Wednesday, October 17, 2012 6:16 PM
To: Meyer, Betty
Subject: Seward Park EIS

Ms. Meyer,
I wish to go on record as a close neighbor of Seward Park and an attendee of several public meetings regarding the placement of the holding tanks that I would like it built under the south parking lot. You will be facing a lawsuit by the 11 neighbors adjacent to the tennis courts if you plan to proceed with the tank under the tennis courts plan. Believe me this is a hot button issue among my neighbors. 1
Sinecerely,
Marcia Bartholme
5838 Seward Park Ave. So

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Response to Bartholme Comment 1

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that this is a significant area of controversy.

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Meyer, Betty

To: SPU_HCSO
Subject: RE: Coment on Seward Park CSO reduction project, ATTN: Betty Meyer

-----Original Message-----
From: John Bell [mailto:juan.campana@gmail.com]
Sent: Friday, September 28, 2012 11:32 PM
To: SPU_HCSO
Subject: Coment on Seward Park CSO reduction project, ATTN: Betty Meyer

Dear Ms. Meyer,

My wife and I live near Seward Park, and we're glad to see the attention to this CSO project. Looking at the information on the Seatte.gov site, I see that there is quite a bit of thought and action that has gone into some neighborhoods for developing rain gardens and providing incentives for home cisterns. These seem to be generally applicable city-wide and it is unclear why such programs are confined as they are to small areas. I can see that the draft EIP for the Seward Park CSO reduction project is very extensive. However, what I don't see is a more basic evaluation of alternative approaches along with pros and cons. Has such a trade study been performed?

1 I admit to not being an expert in this field by any measure. But it seems straight forward that taking some steps (such as cistern incentives for individual residences) could at least reduce the volume requirements for a large-scale storage reservoir, and the cost reduction might more than compensate for the added funding of such alternative measures. We have a vested interest on this specific approach because we are currently considering building a rain cistern to help reduce our water bill while keeping a nice vegetable garden in our yard.

Please consider this general comment in your future planning. In any case, I do commend your work towards a good cause for our city.

Thanks,
John Bell

6036 Seward Park Ave S.

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Response to Bell Comment 1

Thank you for your comment, and for your interest in rain cisterns and other measures to reduce the volume of stormwater runoff. SPU's process to analyze alternatives for this basin began in the Summer of 2010. SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Each of the options was evaluated based on its technical feasibility, financial cost, and social and environmental impacts.

Rain gardens and cisterns in Basin 44 were evaluated in 2010-2011. However, because approximately 90-95 percent of the stormwater runoff in the streets is directed to a separate storm drain pipe instead of to a combined sewer pipe, rain gardens in the roadway would not help to reduce CSOs into Lake Washington. In addition, because of the steep slopes and low permeability of the soils in Basin 44, there appears to be limited opportunity for residential rain gardens on private property. Cisterns could provide some benefit, however, the efficiency and reliability of cisterns in reducing CSOs is much less than rain gardens or a centralized storage facility. This is because the location of the cisterns is not optimal (i.e., the most optimal location for storage is next to the CSO outfall, which is at the Southwest corner of Seward Park), and therefore the timing and availability of cistern storage is oftentimes not in alignment with when it is necessary to reduce CSOs. As a result, SPU anticipates that constructing rain gardens and cisterns in Basin 44 would address less than 10 percent of the required CSO volume. The EIS has been revised so that there is an explanation of the full range of alternatives that SPU considered to reduce CSOs in Basin 44 and how SPU narrowed down the alternatives.

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DNR

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

Caring for
your natural resources
... now and forever

October 5, 2012

Betty Meyer, SPU SEPA Responsible Official
Seattle Public Utilities
Seattle Municipal Tower Ste 4900
PO Box 34018
Seattle, WA 98124-4018

Subject: Draft EIS for Basin 44 CSO Reduction Work

Ms. Meyer:

The Washington State Department of Natural Resources (DNR) manages State-owned aquatic land, including Lake Washington.

We reviewed the September 2012 Draft EIS for Basin 44 CSO reduction work. Based on included diagrams, it appears no part of the proposed construction will include work on state land. However, the proposed construction zone to remove the existing CSO appears to approach the boundary between private and public land.

1 If construction plans are altered to include work on state land, DNR will require Seattle Public Utilities to obtain a Right of Entry authorization to enter and perform work on DNR-managed property. If a Right of Entry is needed, SPU should contact DNR early in the planning process to avoid construction delays.

Laurel Kanawyer is the DNR land manager for all agreements with the City of Seattle government. Ms. Kanawyer is available to answer questions about this letter and to assist with the Right of Entry application process. She can be reached by phone at (253) 441-0904 or by email at Laurel.Kanawyer@dnr.wa.gov .

Sincerely,

Derrick Toba, Assistant Division Manager
Shoreline District Aquatics

c: Susan Saffery, SPU
Laurel Kanawyer, DNR
Joe Miles, DNR
District File
Aquatic Resources File

fc/EISBasin44CSO

SOUTH PUGET SOUND REGION ▮ 950 FARMAN AVE N ▮ ENUMCLAW, WA 98022-9282
TEL: (360) 825-1631 ▮ FAX: (360) 825-1672 ▮ TTY: (360) 902-1125 ▮ TRS 711 ▮ WWW.DNR.WA.GOV
EQUAL OPPORTUNITY EMPLOYER
RECYCLED PAPER

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Response to DNR Comment 1

SPU will contact DNR if construction plans are altered to include work on state land.

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Seward Park (Basin 44) CSO Reduction Project

Comment on Draft EIS

By Mark Early, 7738 34th Ave NW, Seattle, WA 98117 -and- Liz Kinerk 5926 Seward Park Ave S., Seattle, WA 98118
mark@batesearly.net, 206-784-6229

Thank you for allowing us to offer public comment on the Draft EIS for the Basin #44 CSO Reduction Project. We hope these observations and suggestions will help SPU provide the best solution possible to address the important issue of CSO overflows into Lake Washington from the North Henderson Basin #44.

First a little context regarding the project taken from SPU documents.

***** Below - from the SPU "Community Guide to the Project" (Seward Park – Basin 44 CSO Reduction Project) *****

What is the Project?

The Seward Park (Basin 44) Combined Sewer Overflow (CSO) Reduction Project will reduce the amount of untreated sewage and stormwater runoff that overflows into Lake Washington at the combined sewer overflow outfall in Seward Park.

SPU proposes to construct an underground storage facility in Seward Park to temporarily hold combined sewage and stormwater runoff. When there is capacity available, the facility would gradually send flows to the downstream sewer system for treatment

and discharge.

Build Alternative 2 –Tennis Court Tank

Preliminary Construction Zone = dotted pink outline
Approximate Tank Footprint = yellow outline

Description of Proposed Facility

Build a 2.4 million gallon storage facility underneath the existing tennis courts and an adjacent parking lot on the southwest side of Seward Park, adjacent to the Lake Washington shoreline. A 2.4 million gallon tank and facilities vault in this location would be approximately 410 feet long, 50 feet wide, and 30 feet deep.
Tennis court today

During Construction, 2015-2017

Construction Duration
Tank construction would last 18-24 months.

What to Expect During Construction

• The tennis courts and adjacent parking lot would be closed during construction.
• Staging area for equipment and materials would be located on the adjacent parking lot site.
• Parking options for construction personnel are:
• Seward Park Road, immediately adjacent to the east side of the existing parking lot;
• An existing paved parking lot approximately 300 feet east of the site, along the Lake Washington shoreline.
• Construction would normally occur during daylight hours.
• Construction schedule would be coordinated with major events.

From Shannon & Wilson Inc Report (Page 9)

"Preliminary calculations of the steady state groundwater flow into the proposed excavations ranges from
50 gallons per minute (gpm) to 1,700 gpm. Based on the bedrock encountered in the borings, the groundwater flows are expected to be relatively high along fractures in the bedrock and low within the intact unfractured bedrock. The flow estimates assume that groundwater is entering the excavation though 50 percent of the excavation face."…..

From Shannon & Wilson Inc Report (Page 10 and 11)

"The ripping operation, as well as the hoe-ram and roadheader are fairly dusty and noisy excavation methods."

"Blasting is a feasible excavation approach for the rock mass conditions and volumes at Seward Park. Specialty smooth wall blasting techniques would be required in an attempt to create relatively smooth vertical walls and preserve the integrity of the rock mass. Drill holes for blasting are typically on a 12- to 24-inch spacing along the walls, and a 2- to 5-foot spacing elsewhere."

Background

SPU in multi-year negotiations with the US EPA and more recently pursuant to a voluntary consent decree with that agency must reduce CSO events from basin 44 sewer system outfalls that discharge into Lake Washington to an average of only one per year. SPU has chosen as it's primary design solution an expensive buried 2.4 million gallon holding tank whose purpose is to delay for several hours rain event surges of combined stormwater and sewer flows until capacity was available at the West Point treatment facility to process the effluent. The cost estimates for this CSO solution are roughly in the range of $60 million to $80 million dollars, approximately $121,000 dollars per residence. A rather high cost per residence in our opinion. Many years of construction would disrupt neighborhood residents and users of Seward Park, another significant cost to the citizens of Seattle. Consultants Shannon & Wilson have mentioned that the proposed underground tank site may require 'hydraulic Impact Hammer or Hoe-ram" equipment to breakup bedrock at an estimated 2/3rd of the excavation site. High-explosives blasting might also be used. This could mean dynamite trucks rolling thru the residential neighborhood. As cited above, lake and ground water infiltration into the holding tank excavation might require 24-hour pumping moving 1,700 gallons of water per minute. To do that job requires very large pumps, working only a few hundred feet way from residents trying to lead normal lives or sleep in their own home without two layers of ear protection.

1

2

For Your Consideration

3 Unlike most areas in Seattle which use a combined street stormwater drain and sanitary sewer conveyance network, Ballard Basin being one example we are familiar with, a majority of basin-44 residences are on streets that have parallel separate drain systems for street stormwater and the sanitary sewer flows.

We believe SPU should consider and evaluate the option of requiring a majority of the (496) single family residences in North Henderson Basin 44 (basin-44) to divert their roof stormwater runoff, where feasible, from an illegal connection to residential side-sewers, into a retrofitted outflow pipe installed thru their property that conveys roof stormwater directly into those streets or alleys in basin-44 which have street storm drains not directly connected to the sanitary sewer pipe system. If this were done, hundreds of thousands of gallons of stormwater which now enter the sanitary sewer via illegal residential side-sewer roof downspout connections, the prime cause of basin-44 CSO events (though not the only contributor), would be diverted into the street stormwater drain system which is allowed to flow directly into Lake Washington thru separate outfall discharge pipes.

Anecdotally and by our reading of consulting reports from firms contracted by SPU to study basin-44, the hillside above Seward Park has soils which experience high levels of ground water. This may have complicated the issue of applying GSI technology (raingardens, bio-swales etc.) to the problem of diverting stormwater flows in the basin. This should not discourage SPU from considering rain catchment cisterns like those used by the RainWise program in the Ballard basin which capture roof rainwater flow into 400 to 800+ gallon tanks (sometimes via smaller aggregated cisterns) that by design overflow slowly into raingardens which in turn are required to overflow into the street. Other SPU approved RainWise CSO solutions consist of roof stormwater capture into cisterns without raingardens which overflow and/or slowly release directly into side-sewers. Any of these RainWise solutions could be applied cost effectively to residences on streets which do not have separated storm "Drain" and sanitary sewer pipe systems. Today a typical 600 –to- 800 gallon roof stormwater capture system installed in the Ballard basin costs $4,000 - $5,000. This is considerably less expensive per residence than the SPU preferred alternative. Even if a CSO program involving both residential roof downspout diversion to the street where feasible and roof cistern capture with delayed release into a side-sewer was only applicable to ¾ of basin-44 residences, it should drastically reduce the size and scope of the currently proposed CSO holding tank in the park. A reduced size tank may also allow it to be sited elsewhere near the basin waterfront outside the boundaries of Seward Park.

Normal residential sewer flows do not create CSO events, it is primarily rainwater entering the sanitary sewer system that does (most of that illegally via roof drain side-sewer connections) combined with rainwater runoff from the small percentage of streets with storm drains directly connected to the sanitary sewer mains in the basin. It is our understanding that the EPA does not anticipate restricting the separate non-sewer street stormwater flow into Lake Washington for at least a decade or more, if ever. Annually, millions of gallons of street stormwater runoff currently flow thru the separated basin-44 "Drain" system without rising to the level of a concern of the EPA at this time. Should that change in the future a solution would be needed which deals with existing street stormwater which could also address the added clean roof rainwater runoff diverted into the street as we propose here. It should be less expensive to deal with cleaner street rainwater runoff in isolation than with combined rainwater-sewer overflows into Lake Washington, a federal waterway.

There are firms in Seattle doing work on GSI / CSO projects, some involved in the SPU RainWise program which are capable of offering viable proposals to provide SPU with the services necessary to

quickly implement a test program of roof stormwater diversion/detention as outlined above. We encourage SPU to explore a 10 -to- 20 home experimental project on a fast track as a proof of concept of the ideas suggested here. Surely since construction on the EIS proposed 2.4 million gallon tank is not slated to commence before a two year design period in 2013 and 2014, there can be some modest expenditure pursuant to a drastically more cost effect CSO solution for basin-44 which offers the potential at minimum to reduce the size of the CSO holding tank required by diverting (into Lake Washington) or detention (delaying rainwater flow into the sanitary sewer).

This is only a brief outline of the potential for cost savings offered by creative ways to provide rainwater diversion/detention. In closing please consider information mentioned on the SPU website for North Henderson Basin below. Indeed we firmly believe "*Some opportunity may exist for small-scale projects, such as RainWise*." with modifications to the existing RainWise program. We need to offer carrot inducements beyond the normal RainWise toolkit to residents in basin-44 who feel compelled due to basement flooding issues to use illegal roof downspout connections to their side-sewers. This is a big part of the basin-44 CSO problem, but it can also become an opportunity to expand and re-invigorate cost-effective GSI / CSO solutions for many basins in Seattle with CSO issues. Even if these are hybrid solutions with traditional CSO tank components. The combined application of complementary technologies should be a strong consideration.

From SPU website page "North Henderson Basin"

"Because of topography and other factors, Green Stormwater Infrastructure (GSI) opportunities are limited in North Henderson Basins. Some opportunity may exist for small-scale projects, such as RainWise."

Photos taken by the authors in the North Henderson Basin 44

Oakhurst Rd S
5800
Seward Park Ave S
STOP

Storm Drain – separated from sanitary sewer mainline.

Sewer Mainline system

DRAIN
SEWER

Both drainage systems on the same street

5801

Examples below of basin-44 residents conveying roof rainwater runoff into the public street

Response to Early Comment 1

Explosive products, such as dynamite and blasting agents, and initiators and blast hole delay devices will not be stored on site for more than one day. These components will be brought to the work site and deployed into previously drilled blast holes and detonated each day a blast is scheduled to occur. These components will be transported by truck in separate and locked containers to prevent unintended detonation. All work will be performed under the direction and supervision of a licensed blaster, following the state of the practice as well as all local, state, and federal regulations.

Response to Early Comment 2

The recommended shoring system will likely act as a cut-off wall to the groundwater and should substantially limit the volume of dewatering necessary. However, if groundwater infiltration into the excavation is significant and 24-hour pumping is required, a group of several small pumps can be implemented in lieu of one large pump. Regardless of the dewatering needs, the contractor will be required to follow the Settle Municipal Code (SMC) 20.08 Noise Control and if necessary implement noise mitigation measures such as a sound curtain or equipment mufflers.

Response to Early Comment 3

SPU's alternatives analysis process began in the Summer of 2010. SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Each of the options was evaluated based on its technical feasibility, financial cost, and social and environmental impacts.

SPU did consider an inflow and infiltration reduction alternative which would have involved disconnecting roof leaders and foundations drains and connecting them to a separated storm drain pipe. This would have involved work on 100 percent of the properties within Basin 44 to control the CSOs, with considerable impacts to every property owner within the basin. Unfortunately, SPU could not construct the types of disconnections that are shown as examples in your comments because of the potential risks of discharging stormwater runoff onto the ground in an area with steep slopes and low permeability. Instead, SPU would be required to excavate around each home to disconnect the foundation drains and connect up each roof-leader, and trenching would be required from the homes to the streets to connect to a new storm drain. In addition, the alternative would require installation of new storm drains on blocks that currently do not have one. Finally, all of the side sewers and sewer mains would need to be replaced to reduce the infiltration of groundwater into the pipes. This would also require significant excavation both on private property and streets. The inflow and infiltration reduction alternative was the most expensive alternative, costing 55 percent more (up to $42 million more) than the underground storage alternative at Seward Park.

Rain gardens and cisterns in Basin 44 were evaluated in 2010-2011. However, because approximately 90-95 percent of the stormwater runoff in the streets is directed to a separate storm drain pipe instead of to a combined sewer pipe, rain gardens in the roadway would not help to reduce CSOs into Lake Washington. In addition, because of the steep slopes and low permeability of the soils in Basin 44, there appears to be limited opportunity for residential rain gardens on private property. Cisterns could provide some benefit, however, the efficiency and reliability of cisterns in reducing CSOs is much less than rain gardens or a centralized storage facility. This is because the location of the cisterns is not optimal (i.e., the most optimal location for storage is next to the CSO outfall, which is at the Southwest corner of Seward Park), and therefore the timing and availability of cistern storage is oftentimes not in alignment with when it is necessary to reduce CSOs. As a result, SPU anticipates that constructing rain gardens and cisterns in Basin 44 would address less than 10 percent of the required CSO volume.

Distributed storage was screened out because of its considerably high costs and social and environmental impacts. On a technical level, the efficiency and reliability of distributed storage in reducing CSOs is also much less than a centralized storage facility. The reason for this is the same as the reason why cisterns are not optimal. In addition, constructing distributed storage in Basin 44 would be extremely challenging because of the topography of the basin. Due to the slopes of the streets, cascading distributed storage facilities would be necessary. Distributed storage would have more significant impacts on the public because the facilities would be constructed in the streets, creating transportation impacts throughout the basin. Finally, the costs of distributed storage are more than twice the cost of centralized storage. Based on SPU's experience in the Windermere and Genesee CSO reduction projects, 500,000 gallon storage facilities cost approximately $50-$60 per gallon compared to $25-30 per gallon for a 2,000,000 gallon facility. Distributed storage facilities would be even smaller than 500,000 gallons, and therefore the costs would be more than 2 times the cost of a centralized facility.

Phillip H. Ginsberg
6034 Lake Shore Drive South
Seattle, WA 98118

October 15, 2012

Direct Line: (206) 787-1832
pginsberg@hackettbeecher.com

Via E-Mail

TO: Betty Meyer
Andrew Lee

FROM: Phillip H. Ginsberg

DATE: October 15, 2012

RE: Seward Park: Location of Overflow Water Container Tanks

Dear Ms. Meyer:

Janis Stanich, my wife, and I have lived adjacent to Seward Park for 27 years.

Having attended the community meeting last Monday regarding overflow water container tanks, and having reviewed the materials that were distributed, I have the following concerns:

1 1. During the first few years in which the location of the underground tanks was considered, the location which now appears to be your preference was not discussed. It now appears that of all the alternatives you considered, the one that you have chosen is the only one which hugely impacts abutting landowners. All the others did not abut residential property.

2 2. You may not have completed your due diligence. I will read your next environmental report; however, based on last Monday's testimony, it is not clear that the impact of blasting on the families abutting the blasting site has been identified, including the danger to retaining walls and sewer systems.

3 3. What is best for Seward Park. The destruction of the large number of trees, the impact on the birds that nest in those trees and in the immediate area, is problematic. Although a representative of the Audubon Society was present, I do not know what its position is on this issue as that representative did not speak.

4 4. Your reliance on statistics. Certainly a large number of visitors use the park throughout the year; however, the time each of those visitors spends in the park has not been quantified. By contrast, all of the residents who abut your present, preferred location will experience the impact of a 30-month project every day and, apparently, for many days, 24 hours a day.

5 5. The speakers at the last meeting made reference to the high volume of sound and the impact the constant barrage will have on the residents. I will be interested in learning how your organization addresses those health issues.

6 6. Although I practice law, I am not an environmental attorney. My neighbors and I, depending on the decision you make, and its merits, may find it necessary to consult with an experienced environmental and condemnation attorney on the subjects described above.

Thank you for your courtesy in reviewing these comments.

PHG:nb

Response to Ginsberg Comment 1

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public involvement process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Ginsberg Comment 2

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative

site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

Rock excavation for the project could be accomplished using drilling and controlled blasting methods or mechanical excavation using bulldozers or using hydraulic impact hammers mounted on tracked excavators. Each method has advantages and disadvantages, but in each case, potential construction-related impacts (e.g., ground-borne vibration, noise, dust, etc.) can be mitigated by establishing and adhering to standard industry thresholds and limiting criteria for noise, vibration and dust. With regard to rock excavation using drilling and blasting methods, potential negative impacts associated with excessive ground-borne vibrations, fly rock, and air blast (noise) concerns can be mitigated using controlled blasting methods. If blasting is used for excavation, specify a threshold value for air overpressure based on acceptable levels; control the powder factor, the charge weight per delay, and delay pattern; and provide proper stemming, blasting mats, and proper relief for each blast.

The proposed excavation is approximately 60 feet wide, 450 feet long, and 35 to 40 feet deep, with the lower 30 to 35 feet of the excavation in rock. The rock mass consists of very low to low strength, fresh (unweathered) to completely weathered (soil like) siltstone and sandstone of the Blakely Formation. It is anticipated that the excavation performed using drilling and controlled blasting methods will be accomplished using 25 to 35 individual blasts, with each blast occupying half the excavation width and for a distance of 25 to 40 feet along the long axis of the excavation. Blasting will progress excavating one side then the other as the excavation is advanced through the excavation footprint. Following each blast, a sufficient volume of the blasted rock will be removed prior to initiating the next blast. The resulting open space (or relief) provides an open area for rock blasted during a subsequent blast to move into. Sufficient relief, combined with using appropriate powder factors and delay patterns (sequence that the explosives in individual holes are detonated) will reduce the magnitude of ground-borne vibration beyond the final excavation line and space above the excavation. A threshold value for air overpressure (air blast or noise) will typically be set based on acceptable levels, and will be specified in the contract documents.

Often a series of test blasts are performed in advance of production blasting. These test blasts will be done on site, within the footprint of the facility to allow the contractor to assess the appropriate hole spacing, delay pattern, powder factor, etc. to achieve optimum rock breakage, while meeting the contract requirement for noise and ground borne vibrations. Explosive products, such as dynamite and blasting agents, and initiators and blast hole delay devices will not be stored on site for more than one day. These components will be brought to the work site and deployed into previously drilled blast holes and detonated each day a blast is scheduled to occur. These components will be transported by truck in separate and locked containers to prevent unintended detonation. All work will be performed under the direction and supervision of a licensed blaster, following the state of the practice as well as all local, state, and federal regulations.

Response to Ginsberg Comment 3

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy, and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with the Seward Park Vegetation Management Plan and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Ginsberg Comment 4

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have commented, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. Section 1.4 has been added to the Final EIS to disclose this significant area of controversy.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on

recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality).

This recommendation will be presented to the City Council as part of the process to address the requirements of Seattle City Ordinance 118477 (a.k.a., "Initiative 42"). Per Initiative 42, the Seattle City Council must hold a public hearing prior to making a determination whether there is "no reasonable and practical alternative" to constructing the facility in Seward Park. Similarly, the Council will decide which of the two locations within Seward Park (tennis courts vs. parking lot) is preferred. Finally, the Council will make a determination whether or not the proposed underground storage tank is "compatible with park use" and therefore does not require replacement property. SPU expects the City Council to hold the public hearing and make these determinations in 2013. The public hearing will provide an opportunity for the public to provide input on the two alternatives before the City Council makes a final project siting decision. The EIS has been revised to include an explanation of the public process that SPU has carried out and will carry out to site the underground storage tank.

Response to Ginsberg Comment 5

As described in Section 13.2.1.1, park users and nearby residents likely will notice an increase in noise levels during construction, however the construction noise is expected to comply with the maximum allowable noise limits. The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Ginsberg Comment 6

SPU hopes to work with neighbors to resolve concerns with potential impacts.

Kinerk

Draft EIS Comments to
Betty Meyer, SEPA Responsible Official
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. box 34018
Seattle, WA 98124-4018

Date: Oct. 8, 2012

Provided by Daniel and Elizabeth Kinerk
5926 Seward Park Ave. S., Seattle, WA. 98118

1 We do not approve of a CSO tank going into any location within Seward Park boundaries. It will have significant short-term as well as long-term ramifications. If the result is a tank must be placed within the park, we strongly support the Parking Lot Alternative 2 as the CSO tank location.

CSO - Response to SPU reasons for selecting the Tennis Court Alternative 1

2a **SPU Reason 1** • *Alternative 1 would have less impact on park amenities and users, compared to Alternative 2. Alternative 1 would be farther away from a nearby children's play area, picnic shelter, and the Audubon Center. Due to this increased distance, the construction noise, dust, and odor would affect fewer visitors.*
Response: Occasional park visitors are taking precedence over the local neighbors. The neighboring homes will be required to live with this project 24 hours a day, 7 days a week for over a 2 1/2 year construction period plus permanent long term effect.

2b
- Vibrations: Material pulled from (table 1-1) - Potentially damage adjacent structures due to vibration, settlement, or ground settlement at nearby residences and park facilities (however, higher potential impacts to residences compared to park facilities) - What best exemplifies SPU's disregard for the impact of the Alternative 1 over Alternative 2 to the adjoining property owners is the risk of the damage of occupied homes over non-occupied park structures.
  - Vibrations will be strong enough to possibly structurally damage nearby homes (Table 1-1).
  - Sewer lines of 7 homes west of Alternative 1 site will have damage and possibly require additional tree removal for repair (see sewer diagrams attached); possibly more homes could be affected.

2c
- Of the 7 homes directly bordering the proposed construction site for Alternative 1 , Retirees live in 3, and a total of 11 children live in 3. We cannot "chose" as visitors can to go elsewhere during this project. We are required to live with the noise, dust, odor and vibrations.
  - A majority of the comments submitted from the June 7, 2011 "unveiling" of the new Tennis Court Alternative expressed concern for the neighbors. SPU reason 1 is not considering the neighbors.

2d
- Noise: Normal maximum noise level in Residential areas during the day is 55 dBA. Allowable construction limit for this type of project is 80 dBA (think of standing 50 feet from a freight train). People generally perceive a 10-dB increase in a noise source as a doubling of loudness. For

example, a 70-dB sound level will be perceived by an average person as twice as loud as a 60-dB sound (per the Construction Noise Assessment Technical Memo for Henderson Basin 44).

- Per chart 13-1 for the dBA for the 4 closest homes to the sight from one receptor (keep in mind that the receptor was in one spot and this is a large area. Sound will only be louder).
  - Alternative 1 (Tennis Court) - average dBA is 74 (range was 72 dBA to 77 dBA)
  - Alternative 2 (Parking Lot) - average dBA is 64
  - In short, this doubles the excessive sound noise for home owners if Alternative 1 is selected (the above information does not include the sound of pile-drivers and jack hammers).
- SPU's unilateral decision to select Alternative 1 fails to factor the adverse effect on retirees, small businesses and children and animals at home during work hours.
  - The nearly constant work schedule (7 days a week) with its accompanying noise was confirmed by the SPU representative. The draft EIS states the only exception to the construction schedule above will be special park events which have historically triggered their own noise issues and parking issues to the detriment of the neighborhood.
  - Noise will be ongoing 24 hours a day due to the generators and water pumps needed for both sites.
  - SPU's unilateral decision to select Alternative 1 ignores the reality of the harmful effects continuous noise from the generators/water pumps during the "estimated" 2 1/2 year construction period.

2e

- Odor and Dust: The current venting is at the NW entrance to the park. Odors during the summer and periodic other times throughout the year hang in the tree line about 5 feet above the 10 foot stack and drift south to just short of the first tennis court. The smell can be very unpleasant.
  - Short-term: Exhaust from construction vehicles and equipment; particulate matter, carbon monoxide, nitrogen dioxide, and greenhouse gasses (Table 1-1)
  - Long-term: The new Facilities Vault would be located W of the tennis parking lot. This location brings ambient noise and gas and odor emissions as close to the neighbors as possible.
    - Advantage of Alternate 2 - The new Facilities Vault is located at the furthest point possible. Any potential odor issues or noise issues will not effect any park structures or neighboring homes.

2f

    - Testing for lead in the soil from the Tacoma Smelter Plume; heavy dust will be released into the air from either Alternate location. The EIS did not reference soiling testing results for lead.

3a

SPU Reason 2 • *Alternative 1 would be located closer to the existing CSO storage pipe and sewer lines in Seward Park.*

Response: If being close to the existing CSO storage pipe and sewer lines in the park were of high importance, one would have expected that SPU would have eliminated the Alternatives of the Private Property and Lake Washington Blvd. options. If SPU's unilateral decision to select alternative 1 is primarily based on the sewage line proximity, the Tennis Court Alternative option should have been fully investigated and discussed at the beginning of this process in 2010.

3b

The existing storage pipe and sewer lines will not be used in either of the Alternatives as the existing piping was scheduled for replacement anyway. Either Alternative will require reconnection.

3c
- Per 3.3.1.3 in the draft EIS, Alternative 1 would require a temporary bypass of the upper section of the existing SCO Outfall; Alternative 2 would not.

3d SPU's decision conveniently ignores the risk of damage to adjoining property owners sewage lines into the park and offers no solution to this real threat.

SPU Reason 3 • ***Alternative 1 would be less disruptive to Seward Park users during maintenance activities.***

Response: Maintenance activities are typically scheduled during the week when visitation to the park is low. Visitors will have other locations for parking.

4a
- Maintenance activities by the tennis courts will limit the parking spaces for people interested in playing tennis or enjoying the connecting beach in the same manner Alternate 2 would be effected. SPU's unilateral decision to select Alternative 1 over Alternative 2 on the basis of maintenance is without merit.
  - *Per Table 3.6, the most frequent activity is quarterly maintenance for up to 4 hours.*

4b
- UPARR protections are being moved to allow access to maintenance the hatches between the tennis courts in Alternate 1. There is no allowable space for large vehicles to access the hatches without building a road.

4c

5 **SPU Reason 4** • ***Alternative 1 would not require relocating the Seattle Parks sewage pump station, currently located near Parking Lot 2.***

Response: The pump station will most likely require replacement under the scope of this entire project. Relocation in the same area should not be an impact.

SPU Reason 5 • ***Alternative 1 would potentially result in a shorter closed period for Parking Lot 2, compared to Alternative 2. Under Alternative 1, Parking Lot 2 would be fully closed to the public for approximately one and a half years and then re-opened to the public either fully or on weekends.***

Response:

1. What is missing is the discussion of the Tennis Courts and the possibility that they could reopen earlier during the construction. According to the EIS, if Parking Lot Alternative 2 is selected, the Tennis Courts could possibly open earlier.

6
- *1.5 in the draft EIS states: For Alternative 1, the tennis courts would be closed for up to approximately 30 months for construction of the CSO storage tank under that location. For Alternative 2, the tennis courts would be closed for 18 to 30 months if selected as a location for construction staging. The closure of the tennis courts would require people to travel to other tennis courts in the area and increase the competition for court time.*

2. SPU's unilateral decision to select Alternative 1 over Alternative 2 fails to provide a reasoned analysis of use of the Tennis Courts by park visitors. It is well known that tennis court access in Rainier Valley is a premium and the selection of Alternative 2 would lessen the adverse effect for use of public tennis courts in this neighborhood.

SPU Reason 6 • ***Alternative 1 would have less impact to the bald eagles that nest in Seward Park, compared to Alternative 2. Alternative 1 would be farther away from the two eagle nests and the construction activities would likely not be in the eagles' line-of-sight from their nests.***

7 ***Response:*** The draft IES does not support SPU's Reason 6 above.

- *7.3.1.1 in the draft EIS applies to both Alternatives and states, "The proposed project is not anticipated to adversely impact nesting activity by the bald eagles because the nests are highly urbanized, the birds at the two nests are accustomed to increased noise, and the closest nest is located more than a quarter mile from the project area."*

8 The reasons behind SPU's unilateral decision to select Alternative 1 over Alternative 2 do not withstand thorough and reasonable analysis. The shortcomings of SPU's unilateral decision to select Alternative 1 over Alternative 2 is further undercut by the public's choice of Alternate 2 over the options presented during the public meetings. SPU has unfortunately chosen to foreclose the wishes of this neighborhood and will result in irreparable change to an iconic park inconsistent with the plan and vision of the Olmstead Brothers.

Short-term Impacts from the Tennis Court Alternative 1

9a
- The major asset of most families is their home. Alternative 1 will not allow park neighbors to get fair market value for their homes until 2018.
  - Some homes will never regain their value with the underground facilities and tank almost in their backyards.

9b
- Financial impact due to inability to work from home office locations for small business.

9c
- Potential Structural Damage to homes near the park due to construction vibrations and ground shift/settling.

9d
- 43 trees will be lost plus possibly more ; it will take years for the trees to regrow.

9e
- Sewer line damage to park-adjacent homes.

9f
- Light and glare at night (Table 1.1).

9g
- Parking will be at a premium, forcing visitors onto the neighborhood streets.
  - Special events at the park create on-street parking issues
  - Closed parking lots for the CSO tank installation project

Long-term Impacts from the Tennis Court Alternative 1

10a
- Trees will take years to grow back.

10b
- Increased crime with the development of the area around the tennis courts; more visibility of the homes and it is a difficult area for the normal patrol to see.

10c
- Gasses will be released and potentially waft into the Tennis Courts or up the hill into the neighborhood.

10d
- Humming noise from the underground facility will be heard.

10e
- Possible new road to allow maintenance access to the tank hatches.

10f
- Market-value of homes bordering the park will be adversely affected.

Advantages for Alternative 2

11a
1. The Shoreline Treatment Facilities is located at the furthest point from tennis courts and homes. Any potential odor issues or noise issues will not affect any park structures of neighboring homes.
   a. Gasses would dissipate quickly over the water and not be an issue.
   b. Humming noise would be in a parking lot, not near a greenbelt, tennis courts and homes.

11b
2. Further from inhabited structures, reducing structural damage and noise pollution.

11c
3. Sewer lines may not be damaged.

11d
4. Only 26 trees will be lost.

11e 5. The greenbelt to the west (Alternative 1)for the eagles, heron, osprey and wildlife will remain intact.

11f 6. Alternative 2 tank is 350 feet long and rectangular resulting in a smaller footprint and easier engineering.
   a. Alternative 1 tank is 40 feet longer and requiring a bend to fit the narrow space against an environmentally sensitive slope.

11g 7. Financial impact to small businesses may be moderate.

11h 8. Neighboring assets(homes) will be financially "locked-up" until 2018.

11i 9. Light and glare will be reduced.

Scoping Issues with the Tennis Court Alternative

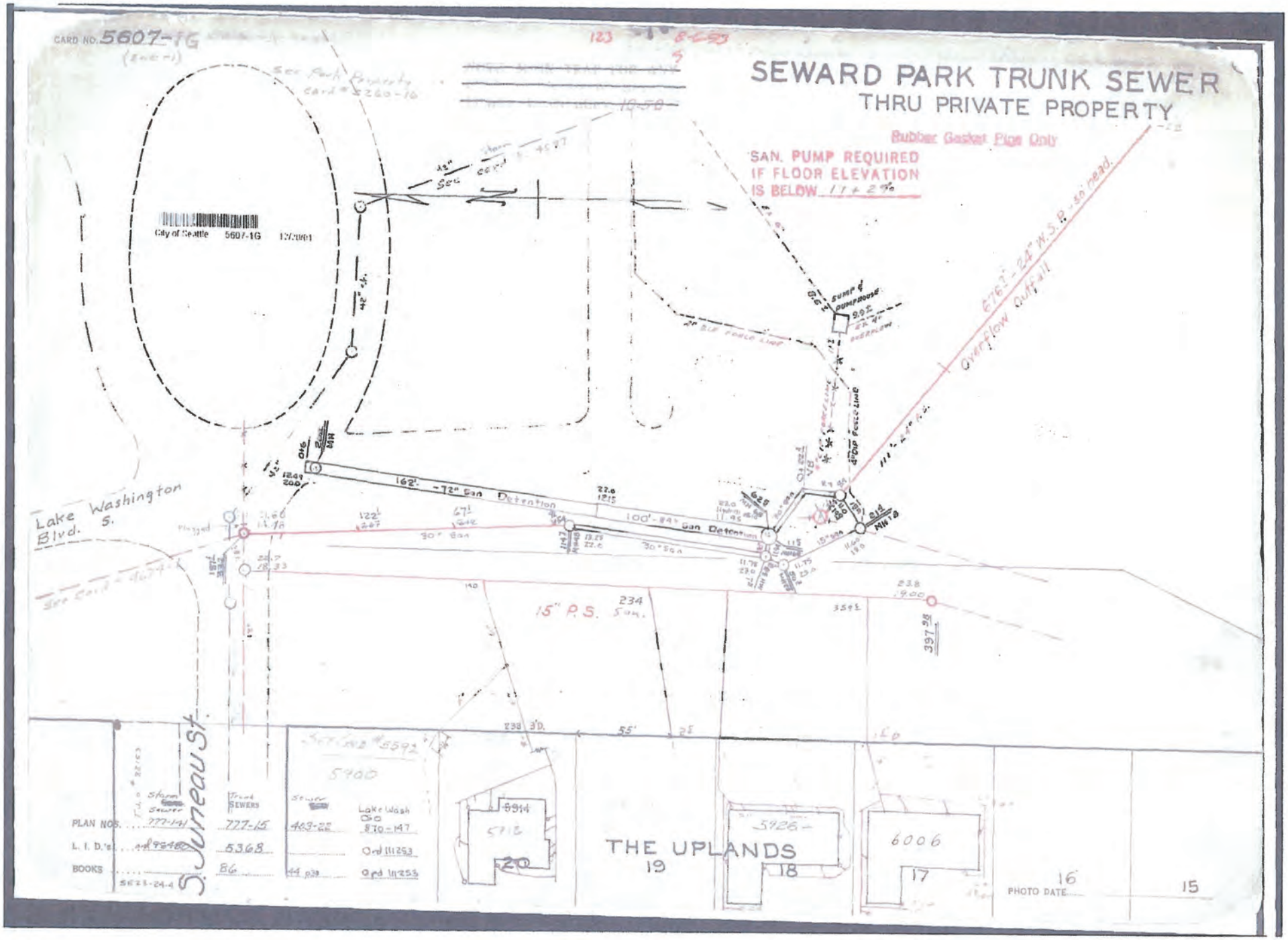
The Alternative 1 of Tennis Courts as a possible location was not presented until June 7, 2012, at the Seward Park CSO open house. 2.9 in the Draft EIS report indicates that all options were fully discussed - this is not the case.

2.9 in the EIS states " *How has SPU involved the public in the proposed project?*
Both SEPA and NEPA require public involvement, especially during EIS scoping and EIS review. SPU has met and exceeded these requirements. In 2010 and 2011, SPU hosted four project workshops, an EIS scoping meeting, and several public meetings. The purpose of these public workshops and meetings was to develop a shared understanding of the problem SPU needed to address, the options, and the potential impacts; and to gather public input on the options, potential project locations, and the scope of the EIS. Materials from these workshops and meetings are available on the project website: http://www.seattle.gov/cso/northhenderson."

12 a. All public meetings prior to June 7th do not reflect the Tennis Court location as an alternate. The June 7th "open house" was not promoted as presenting more tank options so attendance was very low. No further public meetings to discuss the additional option prior to this Draft IES.
At that time, the Tennis Court option was called Alternative 2 (this may lead to confusion during the following discussions). It was not mentioned in any previous online Powerpoint presentation, thou other location options were publicly represented.
   - I attended several of the prior public meetings discussing the Genesee and the Henderson basin. At that time, there was only one site identified in the park. That site was Alternative 2 (Parking Lot Alternative).
     - Meeting presentations on the SPU site clearly show that the Tennis Court Alternative 1 was not addressed in all 7 meetings prior to the open house.
   - I provided my opinion of the new Alternative 1 (was identified as Alternative 2, Tennis Court option) at the open house. I was not contacted until a City of Seattle CSO representative knocked on my door to inform me of the decision to proceed with Alternative 1.

13 In the June 7th meeting, the Parking Lot option was named Alternate 1 and the Tennis Court option was named Alternate 2; public comments were based on the naming conventions from the June 7th meeting.
   a. The naming of the Alternate locations were renamed for the Draft EIS report.
      i. The Parking Lot option is now Alternate 2

ii. The Tennis Court option is now Alternate 1


CARD NO. 5607-1G
SEWARD PARK TRUNK SEWER
THRU PRIVATE PROPERTY
Rubber Gasket Pipe Only
SAN. PUMP REQUIRED
IF FLOOR ELEVATION
IS BELOW 17 + 2%
City of Seattle 5607-1G
162' - 72" San Detention
100' - 84" San Detention
Lake Washington Blvd. S.
S. Juneau St.
15" P.S. San.
THE UPLANDS
PLAN NOS.
L. I. D.'s
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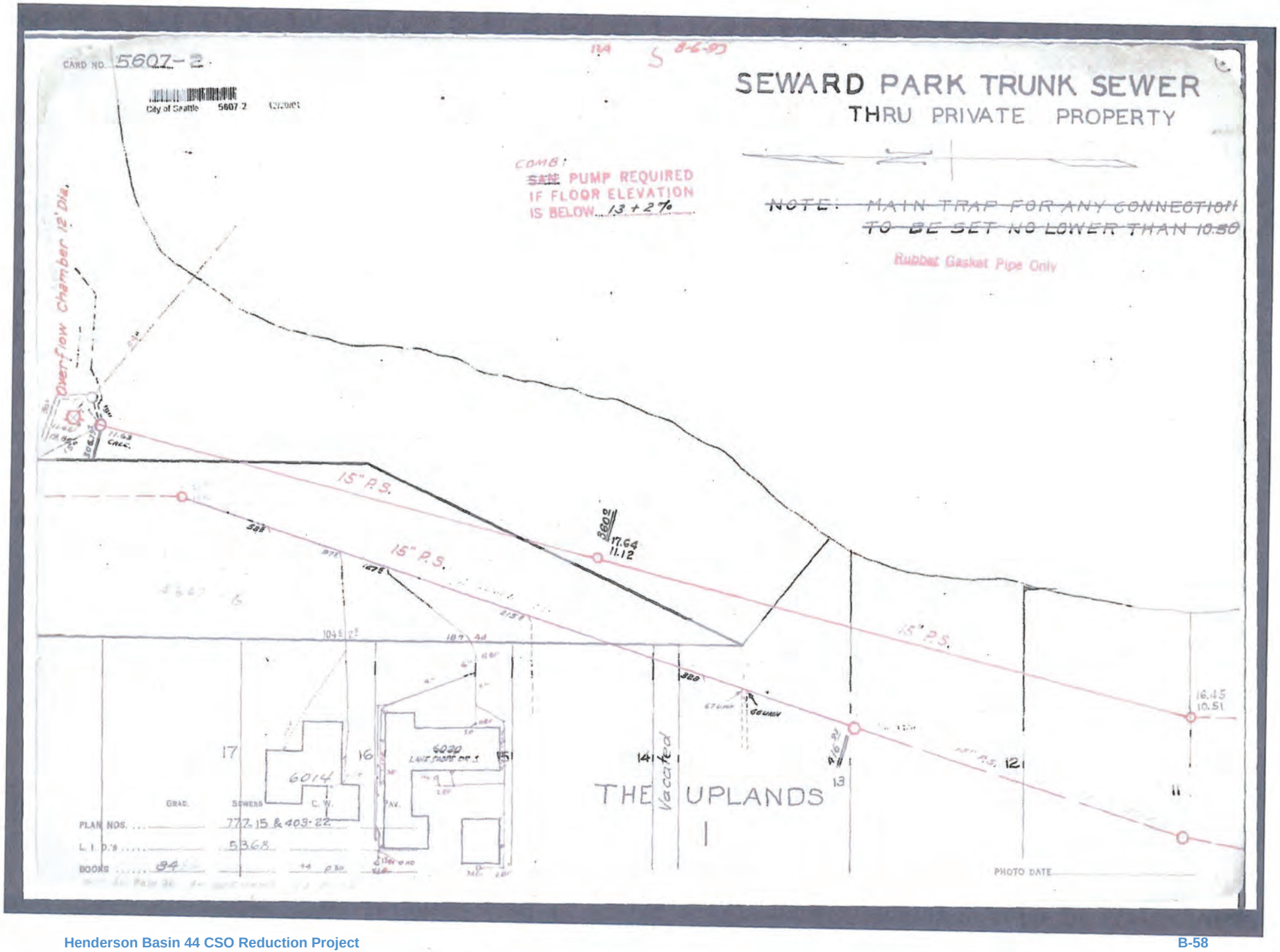
CARD NO. 5607-2
City of Seattle 5607-2
SEWARD PARK TRUNK SEWER
THRU PRIVATE PROPERTY
COMB:
SAN PUMP REQUIRED
IF FLOOR ELEVATION
IS BELOW 13 + 2%
NOTE: MAIN TRAP FOR ANY CONNECTION
TO BE SET NO LOWER THAN 10.50
Rubber Gasket Pipe Only
Overflow Chamber 12' Dia.
15" P.S.
17.64
11.12
16.45
10.51
6014
6020
THE UPLANDS
Vacated
PLAN NOS. 772-15 & 403-22
L. I. D.'S 5368
BOOKS 84
PHOTO DATE

Meyer, Betty

From: lizzyjk@comcast.net
Sent: Wednesday, October 17, 2012 7:34 PM
To: Meyer, Betty
Cc: lizzyjk@comcast.net; Dan Kinerk
Subject: Comment to the draft EIS for Henderson Basin 44

Betty Meyer, SPU SEPA Responsible Official
Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018
betty.meyer@seattle.gov

Dear Betty,
I have an additional comment to add to our comments submitted on Oct. 8th at the public hearing on this draft EIS.

City of Seattle Ordinance 118477, known as Initiative 42, does not allow the sale, transfer, or change from park use to another use unless there is no reasonable and practical alternative. Therefore, the Seattle City Council would have to deem that there are no other "reasonable" or "practical" alternatives and pass an ordinance to that effect.

In review of the draft EIS, I believe there is a practical alternative outside Seward Park boundaries that was not investigated per table 3-1 or referenced in any public materials - I am not talking rain gardens.
14 The current approximate cost of installing a 2.4 million gallon tank in Seward Park (on the low-end) is $100,806.00 per single-household.
The fact that Henderson Basin 44 is a semi-combined sewer system allows the possibility of redirecting roof runoff into public streets or adding cisterns to lessen the flow during winter events. This alternative should be studied as it would keep the tank out of Seward Park, significantly reduce sewer overflow events, and could significantly lower the cost per household to install a workable system. It is my understanding that another interested party will be submitting a more detailed proposal along this line for consideration.

Respectfully,
Elizabeth and Dan Kinerk

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Response to Kinerk Comment 1

Thank you for your comment. We acknowledge your concerns with the Tennis Courts Alternative.

As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that this is a significant area of controversy.

Response to Kinerk Comment 2a

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have commented, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommends the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that this is a significant area of controversy.

Response to Kinerk Comment 2b

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Kinerk Comment 2c

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have commented, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code.

In the meantime, the EIS has been revised to include an explanation of the public process that SPU has carried out and will carry out to site the underground storage tank. Section 1.4 has been added to the Final EIS to describe this significant area of controversy.

Response to Kinerk Comment 2d

As described in Section 13.2.1.1, park users and nearby residents likely will notice an increase in noise levels during construction, however the construction noise is expected to comply with the maximum allowable noise limits. The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Kinerk Comment 2e

Short-term:

The Puget Sound Clean Air Agency (PSCAA) governs activities affecting air quality in King, Snohomish, Pierce, and Kitsap Counties; and thus has jurisdiction over the project area. As required by the PSCAA regulations, emissions will be controlled by using reasonably available control technologies (PSCAA, 2008) and City of Seattle construction practices.

Fugitive dust impacts associated with construction of the proposed project are not anticipated to be significant. Construction contractors will be required to comply with regulatory requirements and implement appropriate dust control measures, as necessary. Measures to minimize fugitive dust emissions from construction will include:

- Spraying exposed soil and storage areas with water during dry periods.
- Covering exposed earthen stockpiles and loads of excavated material being transported from the site.

Vehicular emissions associated with construction of the project are anticipated to be short-term in nature. Measures to minimize vehicular emissions will include:

- Requiring contractors to use best available control technologies.
- Proper vehicle maintenance.
- Minimizing vehicle and equipment idling.

Long-term:

The existing CSO Storage Facility 8 does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

Additionally, the open grated maintenance hole at the existing CSO storage facility will be modified/sealed to contain unpleasant odors.

Response to Kinerk Comment 2f

The Asarco smelter plume was not included in the Phase I Environmental Site Assessment technical report. However, relevant information on Ecology's website has been reviewed and the area under consideration is located in the 0-20 parts per million (ppm) arsenic area of the smelter plume. According to Ecology, areas with concentrations of arsenic within this range do not require remediation.

http://www.ecy.wa.gov/programs/tcp/sites_brochure/tacoma_smelter/2011/techAssist.html

Response to Kinerk Comment 3a

Comment noted. Proximity to the existing sewer infrastructure has been deleted as a reason for preferring the Tennis Courts Alternative.

Response to Kinerk Comment 3b

The existing storage pipe (CSO Storage Facility 8) will remain in use under either alternative. The existing CSO outfall pipe into Lake Washington will be replaced under either alternative. Under either alternative, some sections of the SPU and Seattle Parks sewer pipes in the location of the new CSO storage tank will be reconfigured.

Response to Kinerk Comment 3c

Both alternatives include replacing the existing outfall and would require a temporary bypass at various stages of the project construction. (See Section 3.1.1.3 of the Final EIS.)

Response to Kinerk Comment 3d

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Kinerk Comment 4a

Comment noted. As you commented, the maintenance activities for either the Parking Lot Alternative or the Tennis Courts Alternative will be scheduled during the week when visitation to the park is low. SPU does not anticipate significant long-term recreational impacts for either alternative.

SPU has revised the EIS to clarify the reasons for its recommendation of the Tennis Courts Alternative as the preferred alternative as follows: (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined

by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality).

Response to Kinerk Comment 4b

As described in Section 3.1.1.4, the UPARR protections are being transferred due to: 1) the presence of several permanent, aboveground features required for the proposed project; 2) the project facilities resulting in a dedicated use of the sub-surface area and restricting certain future uses in the surface area; and 3) a construction duration of more than 12 months.

Response to Kinerk Comment 4c

A new road will not be built to access the CSO facilities. The storage facility inspection hatches between the tennis courts will be accessed by two methods. In some cases, maintenance staff will walk a footpath to the access hatches. In other cases, the maintenance activities will require driving on the surface of the tennis courts (with access provided through gates on the north and south ends of the tennis courts boundary fences). The maintenance truck will travel on the apron outside of the doubles sideline to the extent feasible.

Response to Kinerk Comment 5

Thank you for your comment. The existing Seattle Parks wastewater pump station at Seward Park is nearing the end of its useful life and is due for replacement. Language in the EIS discussing how that pump station impacts the selection of the preferred alternative has been removed.

Response to Kinerk Comment 6

As described in Sections 4.2.1.1, 4.2.2.1, 4.2.3.1 and 4.2.4.1, park users will need to seek other tennis courts during construction of either alternative, and there are eight other public tennis facilities within the vicinity. Four of those tennis facilities are within 2 miles of Seward Park; the other four tennis facilities are within 3 to 7 miles of Seward Park. As described in Section 3.4, the Seward Park tennis courts will be completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, unless Seattle Parks personnel decide during the design stage that they will prefer a different use (e.g., basketball courts, picnic area).

Response to Kinerk Comment 7

The Parking Lot Alternative site is closer to the Seward Park South nest than the Tennis Court Alternative site. However, neither project area is expected to significantly affect the eagle nesting foraging or perching behaviors because the specific nest is very accustomed to regular disturbance. The nest is clearly visible from the public road and these particular birds do not appear to be significantly impacted by excess noise and disruption. The Parking Lot site may be more visible to birds that access this nest and, because it is closer, may be visible more often by birds that fly to and from the nest. This could result in some change in flight behavior, but this is not expected to be significant because of the reasons already stated and because the

project is not expected to impact available foraging opportunities or significant perch trees associated with the nest.

Language in the EIS discussing the how impacts to bald eagles impacted the selection of the preferred alternative has been removed.

Response to Kinerk Comment 8

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, the EIS has been revised to include a summary of the public process, and Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

With respect to the Olmsted plan and vision for Seward Park, the storage tank will be below ground with minimal above grade features visible. Restoration will include native vegetation in keeping with the Olmsted design principles and character of the park. The Olmsted Brothers did routinely work with engineers and utility companies in the development of parks to incorporate existing or proposed infrastructure. An example of this still exists today with Olmsted's design of Volunteer Park integrating the reservoir and water tower into the park.

Response to Kinerk Comment 9a

Analysis of potential economic impacts including effects on the market value of homes is not required by SEPA and was excluded from the scope of the EIS.

Response to Kinerk Comment 9b

Specific home office-related impacts are not mentioned, so it is assumed that the commenter is concerned with the noise, odor, air quality and traffic impacts of the proposed project.

The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and

HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected meet the requirements of the City's Noise Control Code.

In addition, project-related air quality and odor impacts and measures to reduce or eliminate air quality and odor impacts are described in Sections 10.3 and 10.5. The project will meet all applicable regulatory requirements.

Project-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5, respectively. The project will meet all applicable regulatory requirements, including any requirements identified in a project-specific Street Use Permit.

Response to Kinerk Comment 9c

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve

drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Kinerk Comment 9d

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy. Tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Kinerk Comment 9e

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Kinerk Comment 9f

As described in Section 6.2.1.1, no significant lighting or glare impacts are expected during construction. While artificial lighting may be necessary to illuminate the site for construction and security purposes, it will be aimed away from residential areas, use the minimum wattage necessary to provide the necessary illumination, and security lighting will be similar to existing security lighting for building facilities within the park.

Response to Kinerk Comment 9g

Sections 4.2.1.1 and 4.2.2.1 describe the impacts to parking, including the fact that during certain times (e.g., summer weekends, special events) vehicles will be displaced from Seward Park into the neighborhood.

Response to Kinerk Comment 10a

It will take time for proposed trees to grow and reach the size of the existing trees.

Response to Kinerk Comment 10b

Due to the removal of the trees, there is the potential for greater visibility of the houses above the western slope adjacent to the tennis courts. Disturbed areas will be enhanced with forest restoration planting, including native conifer and deciduous trees. SPU and Parks plan to involve the adjacent neighborhoods in the restoration of Seward Park regardless of which alternative is selected. The public involvement process for restoration will occur during the project's design phase, from 2013-2014. There is no evidence that the potential for greater visibility of the houses will lead to increased crime in the neighborhood.

Response to Kinerk Comment 10c

The existing CSO Storage Facility 8 (in Seward Park) does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

Response to Kinerk Comment 10d

Noise levels from operations and maintenance will be expected to comply with the residential day and night maximum allowable noise limits and are not anticipated to increase the noise levels at the nearby residences above existing measured noise levels. Noise generating equipment, such as fans from the odor control system, will be located below ground and maintenance will be infrequent and occur only during daytime hours, except in emergency situations. The noise levels from the equipment are lower than the existing noise levels measured at the nearby residences and park facilities.

Response to Kinerk Comment 10e

A new road will not be built to access the CSO facilities. The storage facility inspection hatches between the tennis courts will be accessed by two methods. In some cases, maintenance staff will walk a footpath to the access hatches. In other cases, the maintenance activities will require driving on the surface of the tennis courts, with access provided through gates on the north and south ends of the tennis courts boundary fences. The maintenance truck will travel on the apron outside of the doubles sideline to the extent feasible.

Response to Kinerk Comment 10f

Analysis of potential economic impacts including effects on the market value of homes is not required by SEPA and was excluded from the scope of the EIS.

Response to Kinerk Comment 11a

SPU does not expect long-term odor or noise issues for the Tennis Courts Alternative to impact the neighbors.

Noise levels from operations and maintenance will be expected to comply with the residential day and night maximum allowable noise limits and are not anticipated to increase the noise levels at the nearby residences above existing measured noise levels. Noise generating equipment, such as fans from the odor control system, will be located below ground and maintenance will be infrequent and occur only during daytime hours, except in emergency situations. The noise levels from the equipment are lower than the existing noise levels measured at the nearby residences and park facilities. Operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Regarding odor, the new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank. Project-related air quality and odor impacts and measures to reduce or eliminate air quality and odor impacts are described in Sections 10.3 and 10.5. The project is expected to meet all applicable regulatory requirements.

Tennis Courts Alternative would have less short-term (construction) impacts.

Response to Kinerk Comment 11b

SPU does not expect structural damage to homes or noise pollution from the Tennis Courts Alternative.

Regarding potential structural damage to homes, SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

Regarding noise pollution, noise levels from operations and maintenance will be expected to comply with the residential day and night maximum allowable noise limits and are not anticipated to increase the noise levels at the nearby residences above existing measured noise

levels. Noise generating equipment, such as fans from the odor control system, will be located below ground and maintenance will be infrequent and occur only during daytime hours, except in emergency situations. The noise levels from the equipment are lower than the existing noise levels measured at the nearby residences and park facilities. Operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Kinerk Comment 11c

Neither alternative site is anticipated to damage sewer lines. City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

Response to Kinerk Comment 11d

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Kinerk Comment 11e

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Kinerk Comment 11f

Comment noted. The CSO storage tank for the Parking Lot Alternative site is 15 feet (or 4 percent) shorter than for the Tennis Courts Alternative site. The difference in size is not a significant factor in the identification of the preferred alternative. The Tennis Court Alternative is near, but not within, a steep slope. The structural engineering design can be accomplished for either alternative.

Response to Kinerk Comment 11g

Specific small business-related impacts are not mentioned, so it is assumed that the commenter is concerned with the noise, odor, air quality, and traffic impacts of the proposed project.

The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in

Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

In addition, project-related air quality and odor impacts and measures to reduce or eliminate air quality and odor impacts are described in Sections 10.3 and 10.5. The project will meet all applicable regulatory requirements.

Project-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5, respectively. The project will meet all applicable regulatory requirements, including any requirements identified in a project-specific Street Use Permit.

Response to Kinerk Comment 11h

Analysis of potential economic impacts including effects on the market value of homes is not required by SEPA and was excluded from the scope of the EIS.

Response to Kinerk Comment 11i

As described in Section 6.2.1.1, no significant lighting or glare impacts are expected during construction. While artificial lighting may be necessary to illuminate the site for construction and security purposes, it will be aimed away from residential areas, use the minimum wattage necessary to provide the necessary illumination, and security lighting will be similar to existing security lighting for building facilities within the park.

Response to Kinerk Comment 12

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public involvement process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. Strategies evaluated included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received

comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Kinerk Comment 13

The EIS has been revised so that the alternatives are not numbered. The alternatives are referred to as the "No Action Alternative," the "Tennis Courts Alternative" and the "Parking Lot Alternative."

Response to Kinerk Comment 14

SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Each of the options was evaluated based on its technical feasibility, financial cost, and social and environmental impacts.

SPU did consider an inflow and infiltration reduction alternative which would have involved disconnecting roof leaders and foundation drains and connecting them to a separated storm drain pipe. This would have involved work on 100 percent of the properties within Basin 44 to control the CSOs, with considerable impacts to every property owner in the basin. There would be excavation around each home to disconnect the foundation drains and connect up each roof-leader, and there would also be excavation from the homes to the streets to connect to a new storm drain. In addition, the alternative would require installation of new storm drains on blocks that currently do not have one. Finally, all of the side sewers and sewer mains would need to be replaced to reduce the infiltration of groundwater into the pipes. This would also require significant excavation both on private property and streets. The inflow and infiltration reduction alternative was the most expensive alternative, costing 55 percent more (up to $42 million more) than the underground storage alternative at Seward Park. The EIS has been revised so that there is an explanation of the full range of alternatives that SPU considered to reduce CSOs in Basin 44 and how SPU narrowed down the alternatives.

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NEIGHBORS BLINDSIDED BY SPU'S FAILURE TO INFORM NEIGHBORS BORDERING TENNIS COURT OF ALTERNATIVE UNTIL IT WAS TOO LATE, tennis court alternative was never discussed prior to the alternative being announced June 7th with comments due June 16th 2011

Community Meetings/Workshops:

9/2010, North Henderson Community Briefing – parking lot location pictured

10/2010, Friends of Seward Park Briefing – parking lot location pictured

10/2010, Friends of Olmstead Park Briefing – parking lot location featured, with 3 alternate locations featured: along Lk Wash Blvd, in Seward Park meadow, near the beach

11/2010, North Henderson Workshop #1, no mention possible locations other than "park"

12/2010, North Henderson Workshop #2, 3 locations discussed: parking lot location, Lake Wash Blvd and Private Property

1 **1/2011,** North Henderson Workshop #3, 3 location outlined: Seward Park parking lot, Lake Washington Blvd and Private Property

3/2011, North Henderson Workshop #4, no mention of tennis court alternative. Options listed are again, Storage under private property, Seward Park Parking Lot and Lake Wash Blvd.

5/27/2011
Direct mail postcard announces another meeting, e-mail blast to subscribers announcing meeting (no mention of new tennis court alternative listed)
Nothing available on-line

5/27/2011
E-mail sent to SPU asking, as a neighbor, how to give input if unavailable to attend 6/7/2011 meeting

6/7/201 Open House – 14 people attended
First time information is unveiled about change to possible tank location. Neighbors whole homes sit directly on new site not informed of change.

6/16/2011 Comments due for Scoping Study (9 days after new tennis court location disclosed)

6/16/2011
E-mail response received at 6pm giving information on how to respond

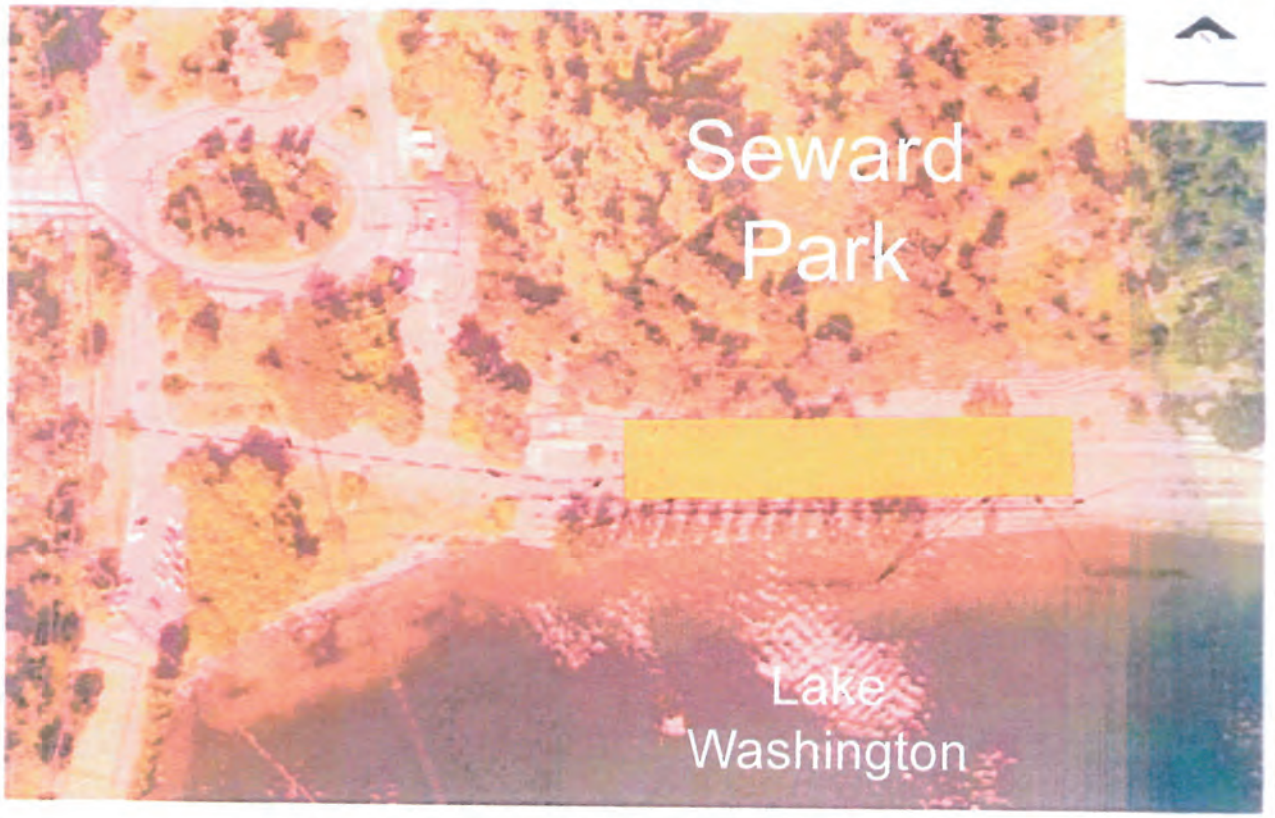
North Henderson Comm. Mtg 9/16/2010

North Henderson Basins

2 TANK ALT: SEWARD + MWP

Includes:

- Approx. 2.4 million gallons underground storage tank in parking lot in Seward Park (approximately 350 ft x 70 ft x 30 ft)



Basin 44 Underground Storage Tank in Seward Park

North Henderson
Possible CSO Reduction Projects

Friends of Seward Park Briefing 10/2/2010

2 TANK ALTERNATIVE

Basin 44 - 2.4 million gallon underground storage tank (Seward Park)

Basin 45 - 200,000 gallon underground storage tank (Martha Washington Park)

Friends of Olmsted Park Briefing 10/4/2010 p.1

North Henderson Basins

2 TANK ALT: SEWARD + MWP

Includes:

- Approx. 2.4 million gallons underground storage tank in parking lot in Seward Park (approximately 350 ft x 70 ft x 30 ft)

Basin 44 Underground Storage Tank in Seward Park

Friends of Seattle's Olmsted Parks 10/4/2010

Friends of Olmstead Park Briefing 10/4/2010 p.2

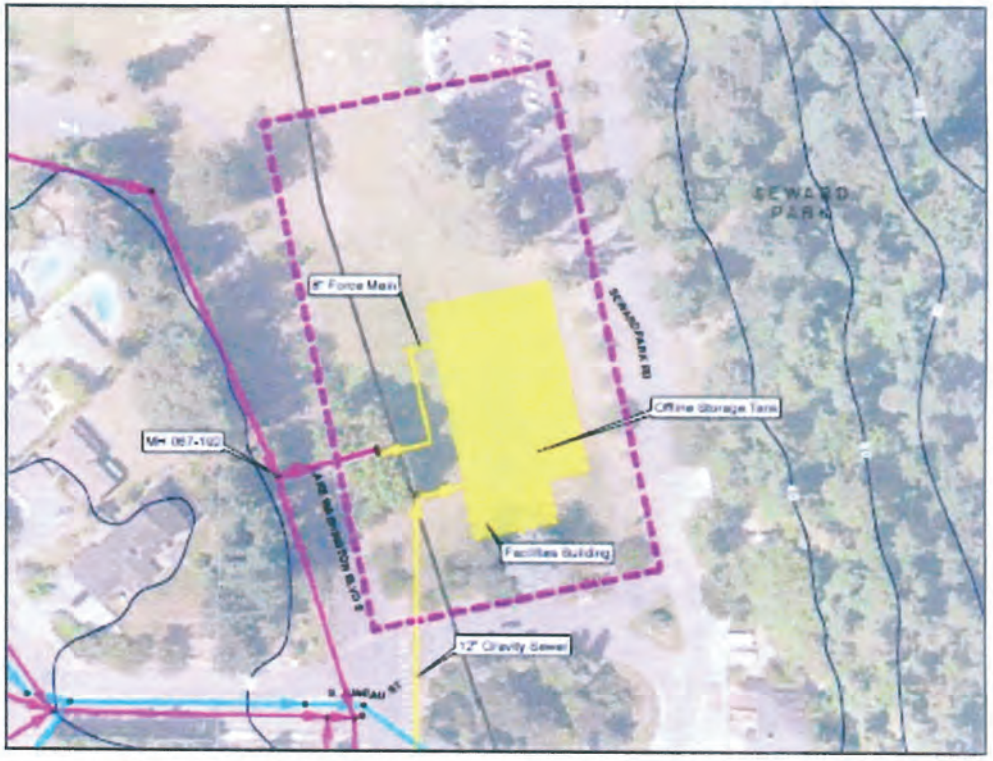
North Henderson Basins

2 TANK ALT: SEWARD + MWP

Other Basin 44 (Seward Park) Storage Locations Considered:

Along Lake WA Blvd

Near the Beach



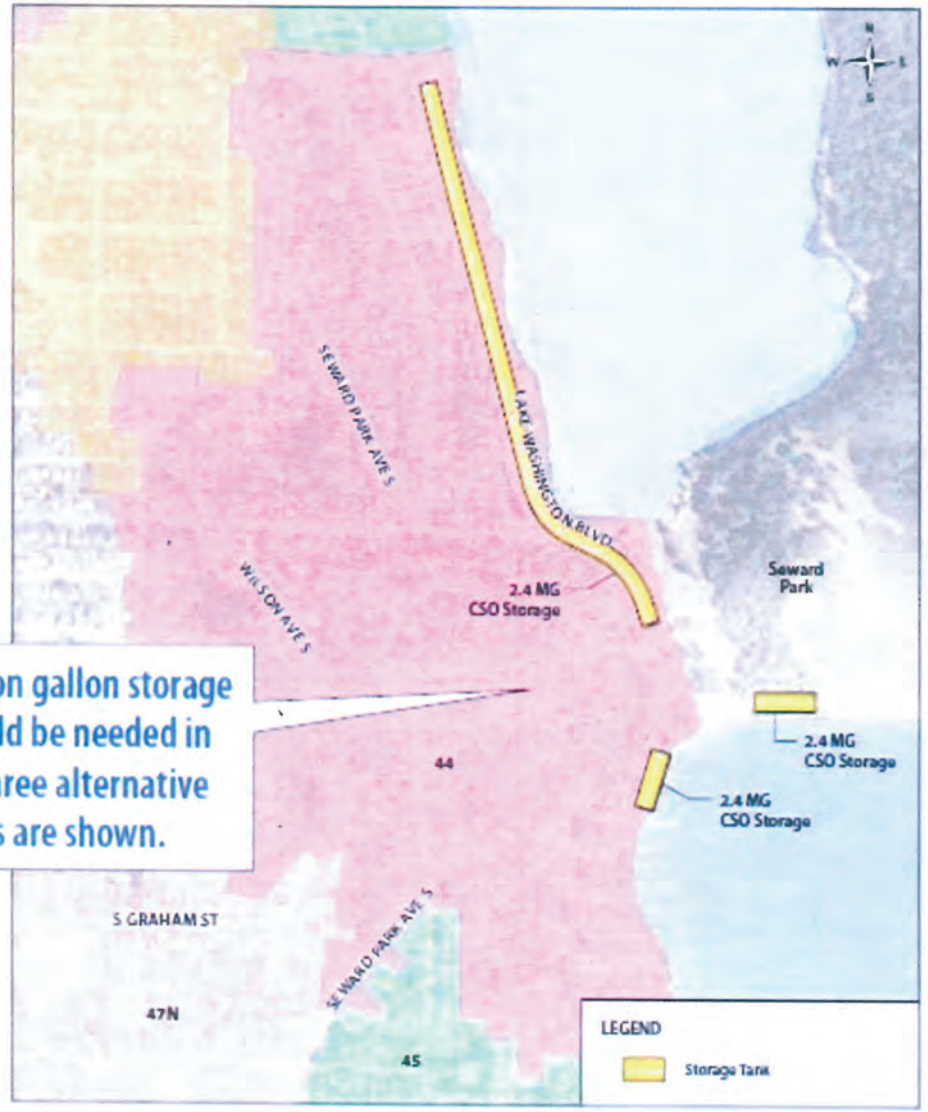
In the Seward Park Meadow

North Henderson Workshop # 2

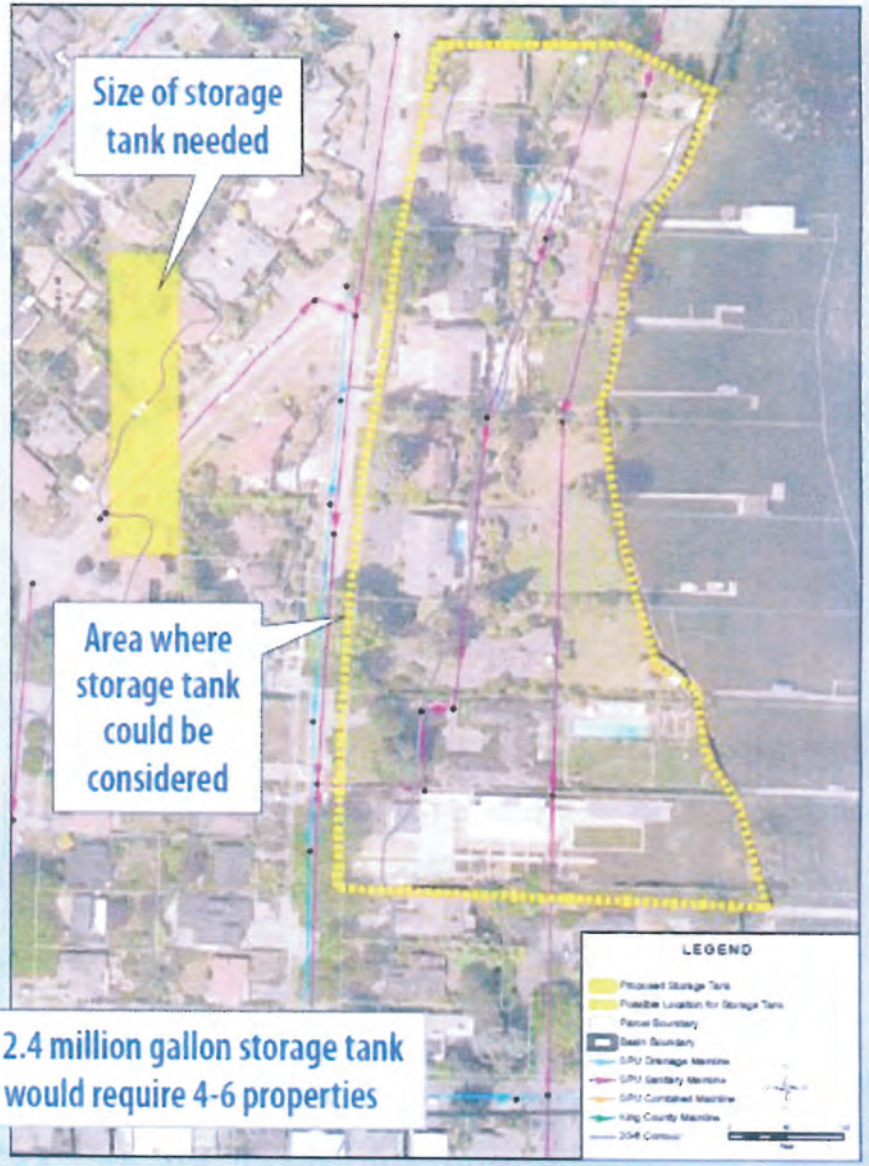
Distributed Storage (Basin 44)

12/14/2010

Storage on private property



One 2.4 million gallon storage facility would be needed in Basin 44. Three alternative locations are shown.



Size of storage tank needed

Area where storage tank could be considered

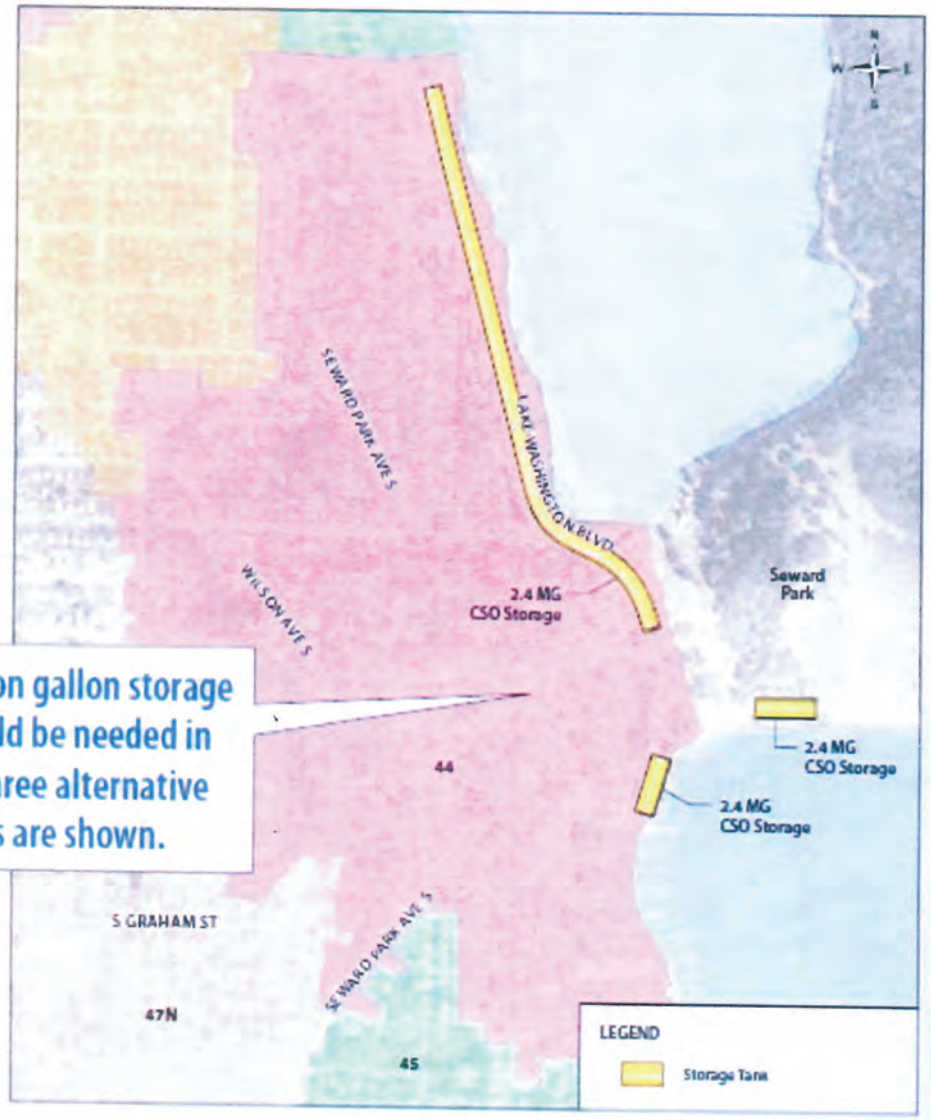
A 2.4 million gallon storage tank would require 4-6 properties

Example of storage under private property

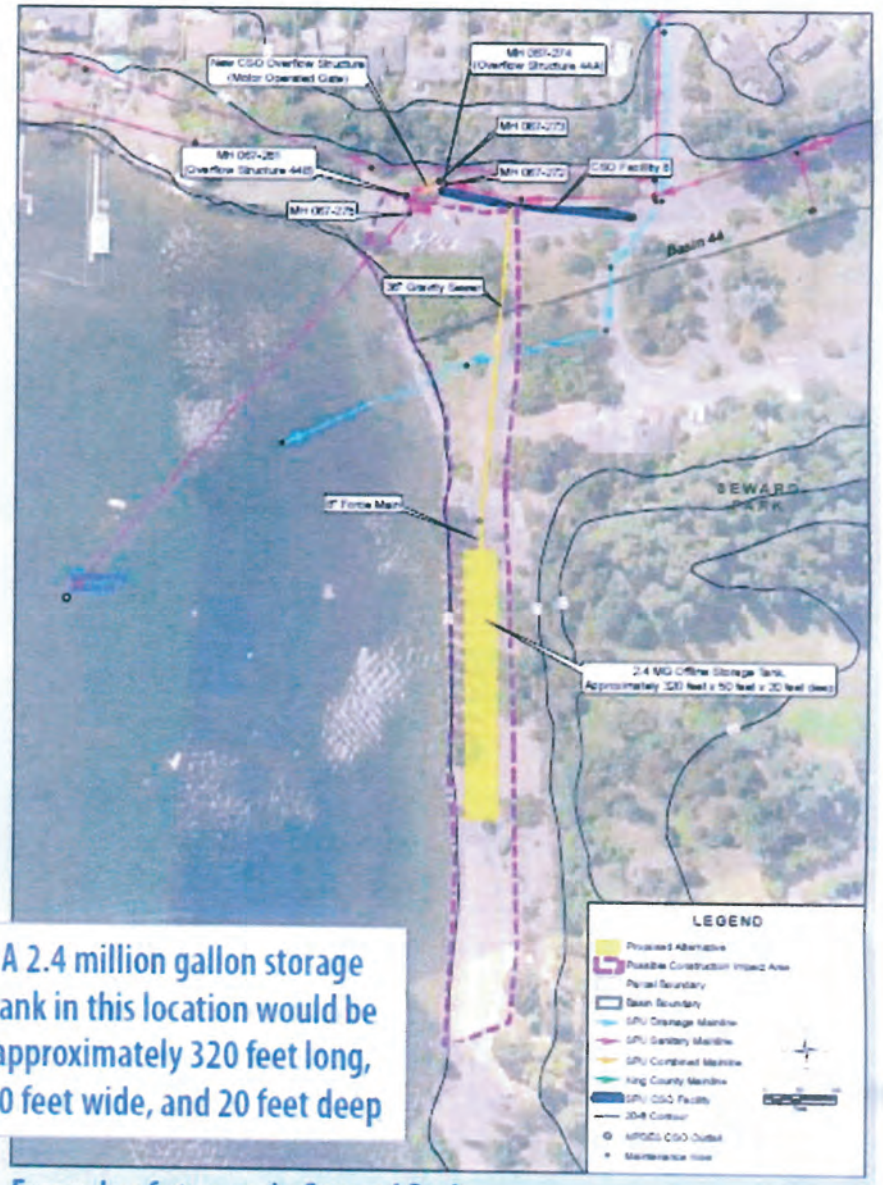
North Henderson Workshop # 2

12/14/2010

Distributed Storage (Basin 44)
Storage under Seward Park parking lot



One 2.4 million gallon storage facility would be needed in Basin 44. Three alternative locations are shown.



A 2.4 million gallon storage tank in this location would be approximately 320 feet long, 50 feet wide, and 20 feet deep

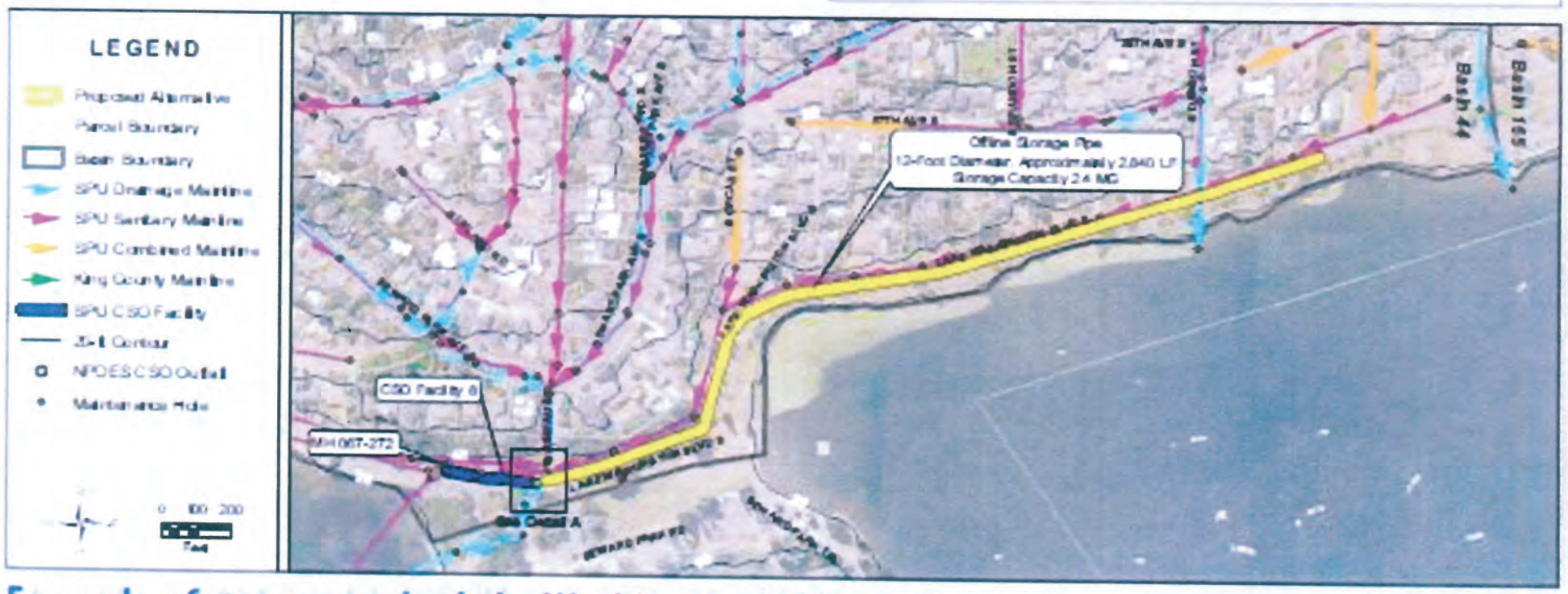
Example of storage in Seward Park

North Henderson Workshop #2 12/14/2010

Distributed Storage (Basin 44)

Storage under Lake Washington Blvd

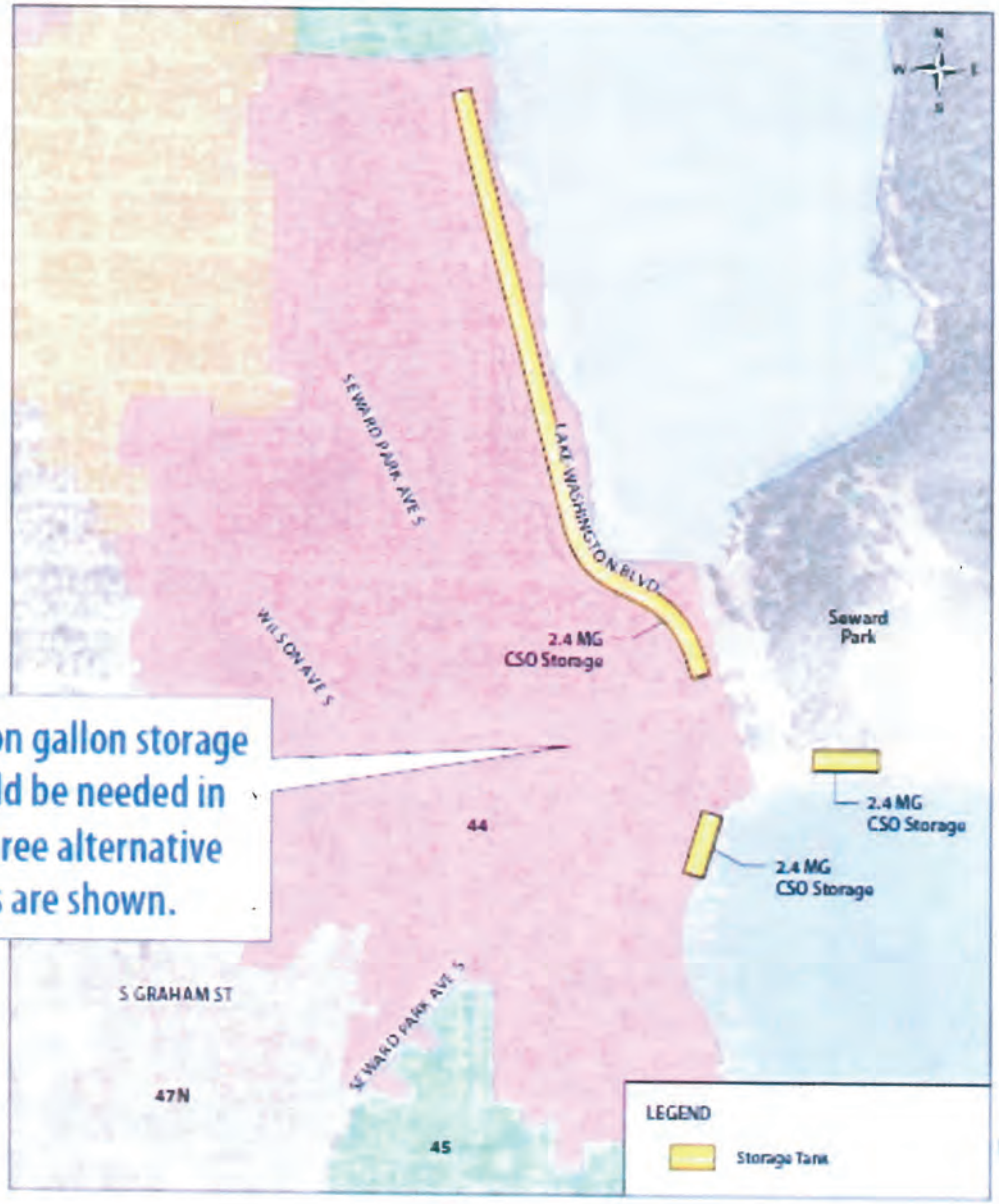
A 2.4 million gallon storage pipeline under Lake Washington Boulevard would require a 12-foot-diameter pipeline approximately 3,000 feet long



Example of storage under Lake Washington Boulevard

North Henderson Workshop #2
12/14/2010

Distributed Storage (Basin 44)
Potential Storage Locations



One 2.4 million gallon storage facility would be needed in Basin 44. Three alternative locations are shown.

2.4 million gallons (Basin 44) could be constructed under:

- Seward Park parking lot
- Lake Washington Boulevard
- Private property

RESTORE OUR WATERS
SEATTLE PUBLIC UTILITIES
COMBINED SEWER OVERFLOW REDUCTION

North Henderson Workshop #5 1/19/2011

Multi-Objective Decision Analysis (MODA) Reduction Options-

What it is

- Clearly defined, thorough decision support tool that captures stakeholders values
- A transparent approach for assessing the triple bottom line of a set of alternatives
- Clear communication and understanding of options
- Weighting exercises bring stakeholders values and policies into alternative evaluation

Rating of performance x weight = Decision Score

- A decision aide NOT a decision maker

Meeting Summary
North Henderson Workshop #3
1/19/2011

Distributed Storage

Requires construction of two underground storage tanks to hold approximately 2.4 million gallons of overflow in Basin 44 and 200,000 gallons in Basin 45.

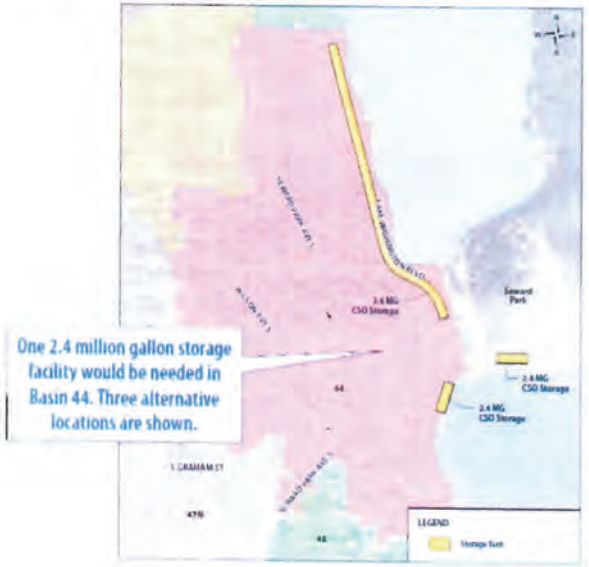
Considerations:

- Cost range: $35-$75 million

Basin 44

SPU is considering three alternative tank locations for the 2.4 million gallon storage tank in Basin 44:

- Tank under Seward Park
- Pipe under Lake Washington Boulevard
- Tank under private property



Map of Basin 44 Tank Alternatives

Basin 45

SPU is considering three alternate locations for the 200,000 gallon storage tank in Basin 45:

- Tank under Martha Washington Park
- Pipe under 57th Avenue
- Tank under private property

Map of Basin 45 Tank Alternatives

North Henderson Workshop #4
3/10/2011

Summary of Alternatives

- Distributed Storage
  - **Basin 44** (Storage under private property, Seward Park parking lot, or Lake Washington Blvd)
  - **Basin 45** (Storage under private property, Martha Wahsington Park open space, or 57th Ave S.)
- Tunnel Storage
- Conveyance and Storage
- Complete Sewer Separation *(includes Inflow & Infiltration Reduction)*

RESTORE OUR WATERS
SEATTLE PUBLIC UTILITIES
COMBINED SEWER OVERFLOW REDUCTION

North Henderson Workshop #4 3/10/2011

North Henderson Workshops

- ***November 18, 2010***
  - CSO reduction options (storage, transfer, separation, treatment)
- ***December 14, 2010***
  - Site-specific CSO reduction alternatives
- ***January 19, 2011***
  - Alternatives analysis using weighted evaluation criteria *(Multi-Objective Decision Analysis or MODA)*
- ***March 10, 2011 (Today)***
  - Confirm feedback to date
  - Present results of alternatives evaluation
  - Confirm a short-list of alternatives

RESTORE OUR WATERS
SEATTLE PUBLIC UTILITIES
COMBINED SEWER OVERFLOW REDUCTION

* From Seward Park (Basin 44) CSO Reduction Project Community Guide to Project

- NO mention of tennis court alternative at any of the workshops

How did we identify the project alternatives?

Seattle Public Utilities hosted a four-workshop series in late 2010 and early 2011 to gather community input to help identify a short list of alternatives to advance for further design and evaluation during environmental review.

Each workshop built upon the outcomes of the previous ones:

Workshop #1 - November 18, 2010
- Learned about methods to reduce CSOs

Workshop #2 - December 14, 2010
- Learned about site-specific CSO reduction alternatives
- Identified and weighted community evaluation criteria

Workshop #3 - January 19, 2011
- Tested project alternatives against the community evaluation criteria

Workshop #4 - March 10, 2011
- Presented results of alternatives evaluation
- Confirmed a short-list of alternatives for further study

Barb Maher

From: CSOReduction-NorthHenderson [CSOREDUCTION-NORTHHENDERSON@TALK2.SEATTLE.GOV] on behalf of Susan Stoltzfus [susan.stoltzfus@SEATTLE.GOV]
Sent: Friday, May 27, 2011 4:42 PM
To: CSOREDUCTION-NORTHHENDERSON@TALK2.SEATTLE.GOV
Subject: [CSOREDUCTION-NORTHHENDERSON] North Henderson CSO Reduction Project Update

Two upcoming opportunities for input:

Seward Park Alternatives Public Scoping Open House (Basin 44) Tuesday, June 7, 2011 6-8 p.m.
Seward Park Environmental & Audubon Center
5902 Lake Washington Blvd. S., Seattle

Martha Washington Park Vicinity Alternatives (Basin 45) Thursday, June 9, 2011 6:30-8 p.m.
Graham Hill Elementary School Cafeteria
5149 S Graham Street, Seattle

Hope to see you there.

In response to community feedback Seattle Public Utilities (SPU) is separating the siting and environmental processes for the two North Henderson CSO basins (Basin 44, which drains to Seward Park, and Basin 45, which drains to Martha Washington Park). Public comments received at community meetings in late 2010 and early 2011 supported managing CSOs for Basins 44 and 45 separately rather than combined solutions (e.g., large storage tunnel and convey & store) and for constructing an underground storage tank in Seward Park to reduce overflows in Basin 44.

Based on community feedback, we are also evaluating other sites and configurations for underground storage near or in Martha Washington Park for Basin 45 — and an alternative that combines infiltration reduction with supplemental underground storage.
Future public meetings will be basin-specific to allow a discussion of unique project issues. We encourage members of the community who are interested in both Seward Park and Martha Washington Park projects to attend both meetings. We will continue to post updates for both projects to this listserv so you can stay up to date on the plans that affect both areas.

Thank you for your continued interest in this project.

If you have questions, please contact the North Henderson project team at 206-826-4767 or SPU_HCSO@seattle.gov.

Click and press Send
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Privacy and Mailing List Policy: <http://www.seattle.gov/pan/>

South Henderson Basin 44 - question

5/27/11

Reply

Barbara Maher

To SPU_HCSO@seattle.gov, 'Mike Maher'

Hello,

I received an e-mail about the public meeting for Basin 44. We will be out-of-town and unable to attend, but are very interested in the plan because our home/property borders Seward Park and I am very concerned about the noise, smell, appearance and increased neighborhood traffic associated with the project.

How do I give input about the project if I am unable to attend?

Thanks,

Barb Maher
6014 Lake Shore Dr. S.

South Henderson Basin 44 - question

To see messages related to this one, group messages by conversation.

6/16/11

Reply

Faine, Christina

Add to contacts
To barbmaher@msn.com

Hi Barb,

Thank you for your e-mail of May 27, 2011. I apologize for the lack of a timely response.

Here is a link to the Web page that has materials from the June 7 meeting:

http://www.seattle.gov/util/Services/Drainage_&_Sewer/Keep_Water_Safe_&_Clean/CSO/CSOReductionProjects/NorthHendersonBasin/index.htm

The Seward Park meeting materials are contained in the second bullet under Meeting Materials.

Again, I apologize.

Christina Faine
Seattle Public Utilities
Combined Sewer Overflow Outreach
206.386.1366

Betty Meyer
SEPA Responsible Official
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. Box 34018 Seattle, WA 98124-4018

Ms. Meyer,

Please see attached for my comments specific to the Draft EIS. However, in addition to my comments on the Draft EIS I would like to add, since you're the SEPA Responsible Official, that I hope you will take a hard look at the how neighbors directly impacted by Alternative 1, the Tennis Court location, were misled and not informed during the critical scoping period.

2 • SPU did a "bait-n-switch", indicating at 7 public meetings prior to the 6/7/11 Open House that the parking lot predominantly, and Lake Wash Blvd and private property secondarily, were the likely locations of the tank. No mention of the tennis court location.

3 • SPU website claims 1-1 meetings between neighbors and SPU occurred, but that was AFTER the tennis court location was revealed as the preferred alternate, not BEFORE when stakeholders could comment.

4 • My 5/27/11 e-mail inquiry to SPU asking how to comment during the scoping process was ignored for 3 weeks, until after close of business day on day comments were due 6/16/11

5 • Website claims that Community Guide to Alternatives was distributed to stakeholders. Not true – neighbors did not receive.

6 • Secret tennis court location was "revealed" on 6/7/11 just 9 days before comments were due, not following SEPA guidelines or the spirit and intent of a scoping process

7 • No effort was made to inform elderly residents not aware of project.

While SPU has every right to consider Alternative 1, the Tennis Court location, I believe they also had the obligation to inform stakeholders so they can comment at the appropriate time, and, with enough time to understand the process and implications.

Thank you,

Barb Maher

Barb Maher

Comments on CSO Draft EIS North Henderson Basin AGAINST Alternative 1 Tennis Court Location:

Inaccuracies in environmental checklist, EIS, or other documentation

8 1. Omissions are inherent in the Draft EIS because comments from neighbors bordering the project were not solicited and entire public meeting process indicated other locations for tank. Scoping process should be reopened and/or SEPA should thoroughly study all potential environmental impacts on neighbors, especially the elderly, children, pets and small business owners who will be living and working on top of a 2.5 year construction site.

9 2. Construction impacts appear to be weighted in favor of recreational Park user who has many options (and 300 acres of Seward Park to use) and against neighbors adjacent to construction site who have to live 24/7 with short-term and long-term impacts.

10 3. Table 3-3 considers contractor staging and parking within Seward Park to be a disadvantage to neighbors. This is incorrect. Monday-Friday lots 4,5,6 and 7 are empty. Using those empty lots would be an advantage not disadvantage to neighbors because there would be less traffic and parking on neighborhood streets midweek.

11 4. CSO maintenance trucks will need to access to vents that are to be placed between the two courts. There will need to be an additional road that is not listed in the plan so the trucks can reach the vents. This access road isn't mentioned in the maintenance needs.

Areas of potential environmental impact that have not been identified

12 1. Sewage line damages to homeowners from vibrations during blasting and pile driving (table 1-1) have not been identified. If homes may be damaged then sewage lines running down Environmentally Critical Area, 40% Steep Slope are sure to be damaged as well and need to be replaced.

13 2. If sewage lines need to be replaced inside Environmentally Critical Area, 40% Steep Slope then additional trees will be lost in Alternative 1. This is not addressed in Draft EIS.

14 3. How will losing additional trees to repair sewage lines affect an ECA? If slope is further compromised will homes above the slope and construction site be damaged further?

15 4. Emergency services to 6014 Lake Shore Dr. S. would be at risk during Seward Park events during construction because parking is allowed on both sides of Lake Shore Dr. S. There is not room for emergency vehicles to access home when cars are parked on both east and west sides of street which happens during large Seward Park events.

16 5. Alternative 1 includes removing more mature, native trees and increasing views of neighborhood homes from park and Audubon Center, contrary to the Olmsted vision of park.

Adverse environmental impacts that have not been adequately addressed

17 1. Damage to nearby homes. Currently the Draft EIS weighs equally the damage to one Seward Park picnic shelter/unoccupied building with 7 occupied homes.
18 Shouldn't the alternatives we weighted to consider homeowners who have nowhere to go to avoid impacts and damage over unoccupied buildings?

19 2. Have the homes being impacted been studied to see what the cost implications will be to repair the mid-century homes, many built on concrete slab construction with huge single-pane windows?

20 3. Where will the elderly/children/small business owners and pets go during construction for Alternative 1 Tennis Court location? According to Chart 13-1 noise level will be at maximum allowed for construction sites, with additional noise for pile driving, blasting and jack hammering. People can't live day-in and day-out with that. Alternate 1 is twice as loud for homeowners than Alternate 2. Why would Alternate 1 and Alternate 2 discount the difference between living with noise and being a recreational user near noise. This is not adequately addressed.

21 4. Lighting of the construction site at night will increase public awareness of homes bordering the site. Crime will increase because of this.

22 5. Draft EIS weighs impact equally between removing trees and removing grassland. EIS should weight removing trees more heaving than grass because it takes decades to replace trees.

Possible mitigation measures that could or should be added to the proposal

23 1. If Alternate 1 is chosen homeowners will need new triple pane windows and window shades to mitigate the sound. Currently most homes are mid-century with large single-pane windows which let in maximum sound.

24 2. Parking for construction workers should be inside park in lots 4,5,6 and 7 to mitigate impact to neighborhood. Table 3-3 incorrectly assumes that using Seward Park for construction staging and parking would be a disadvantage for the neighborhood. Since those parking lots are rarely used mid-week it would be an advantage for the neighborhood because parking on neighborhood streets would be less.

25 3. Dump trucks need to be covered.

26 4. Excavation needs to be done during the rain to mitigate dust impact for people and pets living on top of the site.

27 5. Homes bordering site will need to be surveyed and damages will need to be fixed by SPU. This will need to be easy for the homeowners to save them the additional time and expense of managing the repairs and hiring attorneys to sue the contractor.

28 6. Brick fireplaces will likely be damaged to homes during blasting. They will need to be repaired.

29 7. Sewage lines need to be replaced between homes on construction site to SPU tie-in.

30 8. Do not light site at night. Increased possibility for crime to neighboring homes.

31 9. Lakeshore Drive South should be closed to parking on west side of street to allow emergency access vehicles to reach homes. When cars are parked on both sides of street there is no room for emergency services.

32 10. Parking enforcement needs occur on neighborhood streets every day of project due to increase in parking on streets, often illegal.

33 11. Since SPU is changing the park-like setting that neighbors have enjoyed for decades, then neighbors should be part of the revegetation plan. When trees are replanted they should not adversely impact views from neighbors, but rather restore views similar to before project.

34 12. Large park events need to be suspended for 2.5 years of construction project (1,000 people plus) to lessen impact on neighborhood. Why should neighbors be forced to have majority of the impacts while recreational users and large for-profit events have none? Reimburse Seward Park for permit fees and cancel events.

The merits of alternatives and mitigation measures considered

Parking Lot location (Alt 2) is better than Tennis Court location (Alt 1) because:

35

1. The original Engineering report (no longer available online) came up with no difference between Alternate 1 and Alternate 2 except that Parking Lot (Alternate 1) location has more of a buffer between Lake Washington and an Environmentally Critical Area. So, any EIS should recognize that a massive construction site should always be sited in a location that has less risk for environmental damage.
2. Less potential damage to homes
3. Less impact on homeowners
4. Seward Park recreation users have nearly 300 acres to enjoy regardless of the tank location. Homeowners have nowhere else to go.
5. Less trees removed with Alt 1 compared to Alt 2. Plus, with sewage line replacement likely even more chance for increased number of trees lost.
6. Alt 1 increases view of homes from park adding to an increase risk of criminal activities at homes.
7. Alternative 1 potentially more expensive to taxpayers than Alternative 2 because it will likely take longer with the narrow buffer between ECA and lake and damage to sewer lines and homes.

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Response to Maher Comment 1

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Maher Comment 2

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public

input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Maher Comment 3

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. Stakeholders have had the opportunity to comment on the project since the Summer/Fall 2010. One-on-one meetings with adjacent homeowners were not performed until after the tennis court location was identified as the preferred alternative in the Spring 2012. However, stakeholders have had the opportunity to comment on both the Tennis Courts Alternative and the Parking Lot Alternative since the June 2011 EIS scoping meeting. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Maher Comment 4

SPU's actions to inform and involve the public in the scoping process are summarized in Section 1.3 of the Final EIS. Ms. Maher sent an email to SPU's North Henderson project email address (SPU_HCSO@seattle.gov) on May 27, 2011 asking how to provide scoping input. Because of an unfortunate and inadvertent miscommunication between two SPU staff, she did not receive a timely response. By letter postmarked June 15, 2011 and received at SPU on June 16, 2011 (i.e., before the deadline for scoping input), Ms. Maher submitted extensive scoping input and asked why SPU had not responded to her May 27, 2011 email. Alerted to the situation, SPU staff immediately apologized to Ms. Maher via email on June 16, 2011 and provided a link to the scoping meeting materials. There were no other emails that did not receive a timely response, and the miscommunication regarding Ms. Maher's email did not compromise the scoping process in any way.

Response to Maher Comment 5

SPU's actions to inform and involve the public in the scoping process are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, the community guide was developed for the EIS scoping meeting to help explain the proposed project and the three alternatives.

Following the scoping meeting, it was posted on SPU's North Henderson project website. At no time was there a requirement to develop the community guide or distribute it to neighbors.

Response to Maher Comment 6

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including sending postcards to all neighbors bordering the project, soliciting input during the scoping process and soliciting comments on the Draft EIS.

Response to Maher Comment 7

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including sending postcards to all neighbors bordering the project, soliciting input during the scoping process and soliciting comments on the Draft EIS.

Response to Maher Comment 8

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including sending postcards to all neighbors bordering the project, soliciting input during the scoping process and soliciting comments on the Draft EIS. The scoping notice, the Notice of Availability of the Draft EIS, and the Draft EIS each included descriptions of the three alternatives evaluated in the Draft EIS: the Tennis Courts Alternative, the Parking Lot Alternative, and the No Action Alternative. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to Maher Comment 9

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have commented, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that project siting is a significant area of controversy.

Response to Maher Comment 10

Table 3-2 has been revised to clarify that using the upper parking lots for contractor staging and parking "Impacts neighborhood by shifting vehicles to on-street parking on weekends and during special events."

Response to Maher Comment 11

The storage facility components depicted between the tennis courts are inspection hatches. A new road will not be built to access the CSO facilities. The storage facility inspection hatches between the tennis courts will be accessed by two methods. In some cases, maintenance staff will walk a footpath to the access hatches. In other cases, the maintenance activities will require driving on the surface of the tennis courts (with access provided through gates on the north and south ends of the tennis courts boundary fences. The maintenance truck will travel on the apron outside of the doubles sideline to the extent feasible.

Response to Maher Comment 12

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use

construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Maher Comment 13

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Maher Comment 14

The Tennis Courts Alternative is near, but not within, a steep slope Environmentally Critical Area. Both alternative sites are near the base of slopes. Both slopes are approximately 20-25 feet high and are about 2H:1V (horizontal to vertical). The toes of the slopes are 40 feet or farther from the proposed excavations. Additional geotechnical information will be gathered at the selected site to aid in assessing impacts of the excavation on the stability of the existing slope. If the geotechnical conditions and analyses indicate a likelihood of slope instability due to the proposed construction, such instability will be mitigated by implementing an appropriate design, using appropriate construction practices, and monitoring the slope and other affected facilities during construction. The current excavation support system concept is a secant pile wall. This wall system is installed into the ground prior to any excavation occurring – there will therefore not be an instance of an unsupported excavation near the toe of the slope. Additionally, effects of the tank excavation on the slope's stability (if any) could be readily mitigated by adding additional reinforcing in the piles, deepening the piles, or increasing the pile thickness.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties

will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel). It is unlikely that tree will be removed for sewer repairs.

Response to Maher Comment 15

The City will not allow parking on both sides of the street if emergency vehicles can not adequately access the street. Although vehicles may be parked on the street more frequently during peak park use or events, emergency vehicles will still be able to access the street to respond to emergencies.

Response to Maher Comment 16

Seward Park as a whole reflects the original vision of the Olmsted Brothers, however the character of the alternative locations for the storage tank has evolved away from several of the Olmsted design principles and the preliminary plan of 1912.

The Olmsted Brothers did promote a “foreground of woods” to buffer residential development from Lake Washington Boulevard, where possible. While trees will be removed as part of this project, a significant amount will remain on the forested slope. Due to the removal of the trees, there is the potential for greater visibility of the houses above the western slope adjacent to the tennis courts. Disturbed areas will be enhanced with forest restoration planting, including native conifer and deciduous trees. SPU and Parks plan to involve the adjacent neighborhoods in the restoration of Seward Park regardless of which alternative is selected. The public involvement process for restoration will occur during the project’s design phase, from 2013-2014.

Response to Maher Comment 17

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use

construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Maher Comment 18

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality).

A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Maher Comment 19

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

Response to Maher Comment 20

Thank you for your comment. We acknowledge your concern about potential noise impacts to nearby residents.

The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Maher Comment 21

There are no plans for nighttime construction; however, it may be necessary for the contractor to provide some amount of lighting for construction site security and to reduce the risk of vandalism. There is no evidence that this amount of lighting will lead to increased crime in the neighborhood.

Response to Maher Comment 22

The EIS compares impacts associated with each alternative. Removal of trees is considered a greater impact than removal of grasses. Both alternatives would impact existing trees and the Tennis Courts Alternative would impact more individual trees than the Parking Lot Alternative. A summary of the tree removal is shown in Table 7-2 and the specific trees are documented in Appendix D. Both of the alternatives and the construction limits depicted in the various figures in the EIS were developed with a goal to limit the number of trees affected and limit the impacts to trees whose functions could be replaced within a reasonable timeframe. Large grass areas

that could be used to house the needed facility, such as the grass meadow near Andrews Bay, were eliminated during the scoping process because they did not meet project objectives.

Response to Maher Comment 23

The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Maher Comment 24

Table 3-2 has been revised to clarify that using the upper parking lots for contractor staging and parking "Impacts neighborhood by shifting vehicles to on-street parking on weekends and during special events."

Response to Maher Comment 25

Dump trucks and other construction vehicles will be covered in accordance with the Revised Code of Washington (RCW) 46.61.655.

Response to Maher Comment 26

The Puget Sound Clean Air Agency (PSCAA) governs activities affecting air quality in King, Snohomish, Pierce, and Kitsap Counties; and thus has jurisdiction over the project area. As required by the PSCAA regulations, emissions will be controlled by using reasonably available control technologies (PSCAA, 2008) and City of Seattle construction practices.

Fugitive dust impacts associated with construction of the proposed project are not anticipated to be significant. Construction contractors will be required to comply with regulatory requirements and implement appropriate dust control measures, as necessary. Measures to minimize fugitive dust emissions from construction project will include:

- Spraying exposed soil and storage areas with water during dry periods.
- Covering exposed earthen stockpiles and loads of excavated material being transported from the site.

Response to Maher Comment 27

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

Response to Maher Comment 28

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

Response to Maher Comment 29

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed

construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Maher Comment 30

There are no plans for nighttime construction; however, it may be necessary for the contractor to provide some amount of lighting for construction site security and to reduce the risk of vandalism. There is no evidence that this amount of lighting will lead to increased crime in the neighborhood.

Response to Maher Comment 31

The City will not allow parking on both sides of the street if emergency vehicles can not adequately access the street. Although vehicles may be parked on the street more frequently during peak park use or events, emergency vehicles will still be able to access the street to respond to emergencies.

Response to Maher Comment 32

Impacts related to loss of parking at Seward Park are described in Section 4 of the EIS. SPU conducted a traffic and parking study at Seward Park and in the adjoining neighborhood in August 2012. As shown in Table 4-2, during the week (Monday through Friday) the closure of Parking Lots 1 and 2 in Seward Park would not result in significant additional on-street parking. Therefore, the proposed project would not generate a need for additional parking enforcement on the weekdays. On a Summer weekend, the parking lots at Seward Park do fill up, and per Table 4-2, there will be approximately 100 additional vehicles parking on streets. However, the traffic study also identified approximately 1,400 street parking spaces within a ½ mile radius from the entrance to Seward Park. On a Summer weekend, approximately 1,160 of those parking spots were available. Based on this analysis, SPU does not expect a significant increase in illegal parking in the neighborhood on the weekends during the construction period and therefore does not plan on increasing parking enforcement.

Response to Maher Comment 33

SPU and Parks plan to involve the adjacent neighborhoods in the restoration of Seward Park regardless of which alternative is selected. The public involvement process for restoration will occur during the project's design phase, from 2013-2014.

Response to Maher Comment 34

Impacts related to loss of parking for large events (greater than 1,000 people) at Seward Park are described in Section 4.2.1.1 of the EIS. There are approximately 15 large events at Seward Park each year. Based on the analysis of the impacts, there would be a loss of approximately 90 parking spaces (out of 351) in Seward Park due to the loss of parking from the construction activities. The loss of 90 parking spaces would equate to 90 additional vehicles parking on the streets adjacent to Seward Park at any one time during a special event. Assuming that there are between 1,000 to 15,000 vehicles looking for parking on an event day, the increase in parking in the neighborhood would be between 1-12 percent. Based on this analysis, there would not be a significant increase in parking in the neighborhood during large events during the construction period and therefore the City does not plan on closing Seward Park to large events during construction.

Response to Maher Comment 35

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park; visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). As you have noted, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

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Meyer, Betty

To: SPU_HCSO
Subject: RE: Input for North Henderson CSO

From: Paul Miyake [mailto:paulmiyake88@yahoo.com]
Sent: Friday, October 12, 2012 11:12 AM
To: SPU_HCSO
Subject: Input for North Henderson CSO

I am against this project...completely.

1 This is spending $60 to $90 million for an event that happens only 17 times a year (if that is even accurate data)? And, what are the recurring costs? What is the lifetime of this facility? What will the replacement costs?

The ratepayers of Seattle cannot afford this!!

Paul Miyake

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Response to Miyake Comment 1

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, to protect public health and water quality in Lake Washington. Lake Washington has been identified by the Department of Ecology as a water body that is impaired with fecal coliform bacteria. Combined sewer overflows (CSOs) are a major contributor of fecal coliform pollution to Lake Washington. Sewage overflows contribute high concentrations of pathogens, metals, ammonia, nitrogen, and toxic organics to our waterways, with risks to public health and the environment. SPU's CSO reduction program to reduce sewage overflows to Lake Washington will provide public health and environmental benefit while also complying with federal and state regulations.

The operations and maintenance (O&M) costs for the underground storage facility are expected to be approximately $57,000 per year. The anticipated replacement costs are $2.8 million on a 25-year replacement cycle, for mechanical, electrical, instrumentation, and control equipment. The facility is expected to have a life of approximately 100 years.

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SELANDER O'BRIEN PLLC
ATTORNEYS AT LAW

Jeannie O'Brien

3829C South Edmunds Street
Seattle, Washington 98118
P: 206.723.8200 F: 206.723.3829
jeannie@selanderobrien.com

O'Brien

October 17, 2012

Ms. Betty Meyer
SEPA Responsible Official
Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
Seattle, WA 98124

Via Email: Betty.Meyer@Seattle.Gov

Dear Ms. Meyer,

Please add this written comment to the Draft EIS regarding the North Henderson Basin #44 presently sited for Seward Park.

I write in my individual capacity and not as President of the Lakewood Seward Park Community Association, but you will see where some of my comments relate to my service in that capacity. I am a life-long resident of the Rainier Valley, and currently reside at 4224 – 51st Ave. South, adjacent to park land and between the two other proposed basins at 49th on Lake Wash. Blvd and at Genesee on Lake Wash. Blvd.

NOTICE:

1 My first comment regards notice. You might recall that I addressed the lack of notice at the public hearing on October 8th where I provided oral comment. I was told by Christina Faine that notice was provided to 2000 residents near the project, to those that had signed up for email notice, and to the Lakewood Seward Park Community Club at not one but two addresses. The Lakewood Seward Park Community Club has no association with the address on Rainier that one letter was sent, and we did not receive the letter sent to our proper address at 4916 S. Angeline Street. I confirmed this with our executive director. Had it been a postcard, it could have been discarded by accident, but this was an actual letter in an envelope that would not have been discarded without my permission. Everyone with a key to our Association's mailbox knows very well my feeling about these matters.

LSPCC has hosted two public meetings for SPU regarding the CSO projects. We are obviously an interested party. But I take a step further: anyone in the City of Seattle that enjoys parks and low utility rates should receive notice of each and every one of these projects and have a right to be heard. You have no idea how many calls I get after the fact, when a MUP sign is erected or changes are made to public roadways or we see a new cell phone tower - people get very upset when it
2 is too late to have meaningful input. This is not the way governments should run.

We know that public entities have a notice requirement that is a radius surrounding the proposed project and that those residents get notice and no one else. The problem here is that everyone in the City will suffer the consequences of this decision for generations to come, and notice to surrounding residents in no way reaches the thousands of people from all over the county, the State and beyond that enjoy Seward Park.

PROPOSED ALTERNATIVES:

Our City Leaders purchased private property in 1910 to create a Seward Park. This involved vision and leadership, and we are proud to call Seward Park our home. Our Community Association was an active participant in the Centennial
3 Celebration that took place in many events through the Spring and Summer months of 2010. The Olmsted Brothers also had a vision, involving lowering Lake Washington to put in Lake Washington Blvd., using a series of parks to connect Seward Park to the Arboretum. This is the legacy that we must protect. There is no way that our City Leaders in 1910 and the Olmsted Brothers planned Seward Park to house a 2.4 million gallon Sewer tank.

Some people in Seattle suggest that we need to protect clean water, and we need to follow EPA guidelines. Others, however, see the recklessness of the spending. These include the Natural Resources Defense Council, the Sierra Club, and others who would rather see the same money spent on other environmental remediation that will better protect the environment. The truth is that the amount of sewage
4a that may get into the lake during an overflow situation is so minute that it would dissipate before causing any human any harm. And, these overflow situations do not occur when people are using Lake Washington for recreation where they might accidently ingest raw sewage and become ill. To create the foul smell and ugly
4b structure in Seward Park all year long in the remote chance that someone might get sick is a waste of time, money and aesthetics.

As with any draft EIS, there is a No Action Alternative. That is my personal preference. I do not believe alternative 1 or 2 satisfy anyone. Alternative 1 is extremely disruptive to tennis court neighbors and very disruptive to all park users for two to three years at least. Alternative 2 is not much better – net tree loss is
5 less, but keeping people from using the brand new playground that the community came together to build is absurd. There are so many athletic events that take place at the park all year long that I can't begin to list them all, and that it what makes our neighborhood so special.

I am not a scientist, an engineer or a wastewater specialist. I am a concerned citizen and tax-payer. I do believe that smaller tanks could be built along Lake Washington Blvd. to accomplish the same result. I cannot roll over and watch my
6 tax dollars be spent on such a wasteful and useless project. I direct you to an article that I'm sure you have read, published in the Seattle Times on July 30, 2011 entitled: Costly sewer program may have little benefit. I have attached it to be added to my public comment.

SEATTLE CITY ORDINANCE 118477:
I further attach to my public comment the story of Bradner Gardens Park and remind everyone involved in this project that land owned by the City of Seattle for
7 a park use cannot be sold, traded or used for a non-park use unless it is replaced with like, kind property in the same neighborhood. Park and sewer overflow are in no way synonymous.

I appreciate the opportunity to be heard further on this matter, and ask that you kindly include this letter and the attached articles to the public comments to the Draft EIS.

Respectfully submitted,

Jeannie O'Brien

Jeannie O'Brien

Encls.

Page 3

EXHIBIT 1

The Seattle Times
Winner of a 2012 Pulitzer Prize

Local News

Originally published Saturday, July 30, 2011 at 9:02 PM

Corrected version

Costly sewer program may have little benefit

Seattle and King County propose spending more than $1.3 billion on combined sewer overflows, raising rates that already are among the highest in the country. Yet it will make little difference to the water quality of Puget Sound.

By Lynda V. Mapes

Seattle Times staff reporter

Seattle and King County are poised to spend more than $1.3 billion of ratepayer money on pollution-cleanup programs that won't even move the water-quality needle in Puget Sound.

The programs are intended to contain so-called combined sewer overflows (CSOs).

Top comments Hide / Show comments

" Obviously it would be nice to see more numbers from the people arguing for additional f... (July 30, 2011, by Zgh2676) *Read more*

"

An occasional source of pollution, CSO discharges occur primarily during heavy rains. Stormwater mixes with wastewater, including raw sewage, and overflows through outfall pipes to local water bodies, and eventually to Puget Sound.

"This is just crazy; we don't have unlimited funds in this country, and whatever... (July 30, 2011, by beads) *Read more*

From the sub-heading: Seattle and King County propose spending more than $1.3 billion... (July 30, 2011, by road less travelled) *Read more*

Read all **83** comments > Post a comment >

But surface runoff, not CSO discharge, is the single largest source of pollution to Puget Sound, according to the Puget Sound Partnership, the state agency charged with cleaning up and restoring Puget Sound, and the state Department of Ecology (DOE). Carrying contaminants such as copper, zinc, oil, lawn fertilizers and animal waste, surface runoff barrels untreated from storm drains all over the city into Puget Sound, not just in heavy storms but nearly every time it rains.

The city and county already have spent hundreds of millions of dollars containing CSO discharges, and have greatly reduced their effect. Today, in the partnership's Action Agenda for Puget Sound, CSOs don't rank in the top 10 or even the top 20 things to do to reduce water pollution in Puget Sound.

Projects planned by Seattle Public Utilities (SPU) will raise utility rates — already among the highest in the country — $7.41 a month over the next 14 years to complete the city's $500 million CSO program.

Meanwhile, King County has just raised its cost estimate for nine new planned CSO projects — which go to the County Council this fall — to $711 million, up 75 percent since its last estimate for the work in 1999. More projects in the works have ballooned in cost to $103 million from an estimated $36 million in 1999.

Some question whether it makes sense to spend so much more on CSOs, when Puget Sound faces bigger problems.

"It's time to call the question," said Pam Bissonnette, former director of Natural Resources and Parks for King County, and now a private environmental consultant.

"You could take probably half the money we are spending on the CSO program, and go upstream and correct stormwater problems and have a bigger impact on the (Duwamish) river and water quality than the CSO program. We need a cost-benefit analysis, an honest-to-God one, and say, look, this is the highest and best use of that dollar, if the concern is water quality."

Discharges far lower

The amount of CSO discharge entering Puget Sound today is estimated at about 1 billion gallons a year — down from about 30 times that in the 1960s.

To be sure, no one likes the idea of spewing raw sewage or other pollutants into the water, and even small amounts of some pollutants, such as copper, can have a big effect. Local utility administrators say that the Clean Water Act compels them to control pollution. And Christie True, director of King County Natural Resources and Parks, says upcoming CSO projects will prevent localized, short-term exposure to CSO discharges for people swimming, kayaking or playing in the water near an outfall. "We can't ignore local effects."

The goal of CSO control projects in general is to contain the overflow in storage until storms subside and it can be routed to sewage-treatment plants. Other projects reduce the amount of stormwater entering the drainage system, to make overflows less frequent. The projects today continue work that's been under way for a generation.

What is punitively expensive now is driving to the last percentages of improvement. Dozens of combined sewer overflow-control projects are planned all over the city for the next 15 years.

Ray Hoffman, director of Seattle Public Utilities, says he's convinced the $170 million his agency will spend on projects in Lake Washington over the next five years makes sense for a water body without tides and in which pollutants can linger well after storms end.

How many, not how much

Part of what's driving all the proposed new spending is a 1988 Department of Ecology mandate that addresses not the *effect* of CSO discharges but their *frequency*.

King County manages 38 CSO outfall pipes and Seattle manages 90 that discharge into Lake Washington, Lake Union, the Duwamish River, Elliott Bay and Puget Sound. The state regulation says governments must get rid of discharges until there is an average of one untreated discharge per year per outfall.

Kevin Clark, from 1987 to 1994, managed what today is Seattle Public Utilities. Clark was involved in discussions to set the state regulation, but he has doubts about it today: "I am all for asking if capturing the last few overflows is the best use of limited public money. We ought to have a big old rousing debate. There is a tremendous amount of money being spent on this. Are we getting the best bang for the buck?"

He offers this example: Just one storage tank in a $52 million CSO project for SPU across from Magnuson Park will control, on average, 4 million to 6 million gallons of overflow in two to three storm events a year — at a cost of $22 million. He said there's nothing magical — or scientific — about the state mandate of one overflow per year per location. "I just wanted something I could explain to the newspapers," he said. "One everywhere was nice and simple."

But Larry Phillips, a member of the County Council who has spent years on water-quality issues, said even if other approaches make sense, wastewater ratepayer dollars available for CSO projects can't be spent on other programs, such as buying habitat or attacking the larger surface-runoff problem.

CSOs and surface runoff are different kinds of dirty water, addressed with different sources of money — and even though it's all headed to Puget Sound, the dollars aren't allowed, under current rules, to follow the pollution.

Launching a big debate about that or Seattle's CSO programs could backfire, Phillips said, noting the Legislature has just turned its back for the third year in a row on a fee to raise $100 million a year for stormwater work. "This is what lets people off the hook, it's 'until you guys get all that resolved, let's not do anything on stormwater.' "

Yet Phillips sees the bigger problem coming: "I am not going to kid myself that doing something on CSOs in the last 5 percent of the effort is going to make a dent in Puget Sound on a basinwide basis. That is going to take a much bigger effort."

The city and county now are negotiating agreements with the U.S. Environmental Protection Agency (EPA) and Department of Ecology to set targets and deadlines for the county and city CSO programs.

"This is just crazy"

Bill Ruckelshaus, two-time national administrator of the EPA, said job No. 1 is spending money cost-effectively and working with federal and state regulators and cleanup activists to do it. "It takes leadership from the top to say, 'Let's make these things work better.' Even the president has said, 'Let's get rid of regulations that don't make any sense.'

"This is just crazy; we don't have unlimited funds in this country, and whatever we do, we ought to spend where we get the most bang for the buck ... cost-benefit has not been part of the discussion."

Ruckelshaus recently stepped down as chairman of the leadership council of the Puget Sound Partnership, where David Dicks, just reappointed to the leadership council and former executive director, also sees a need for a triaged approach. "What we promoted was panning back and figuring out what makes the best sense," Dicks said. "Spend the money there, and work your way down. This is the perfect example of doing the opposite.

"It's just momentum. And what you learn in these things is you can go in and scream and yell and be a revolutionary for a while, but the institutional momentum of these laws has a lot of power, and it is just dumb power. ... What we need to do is turn off the autopilot and see what makes sense here."

At Ruckelshaus' urging, his agency's Action Agenda for Puget Sound nearly two years ago suggested convening regulators and others to come up with a more cost-effective way to improve water quality in urban areas like Seattle and King County. It hasn't happened yet.

Talk of re-examining priorities got started in 2008 under former King County Executive Ron Sims. Then he and others involved in the discussion went on to other jobs, True said. "The whole thing was just dropped."

Dennis McLerran, administrator of EPA Region 10, said he backs staying the course — and piling on the larger stormwater problem, too. Fixing that, especially in the urban core of Puget Sound, will take a range of strategies, many still emerging, with a potential price tag from $3 billion to $16 billion, according to a recent study for the partnership.

Potent rallying cry, but ...

One reason CSO work has received so much money and political support is the yuck factor: Raw sewage in any amount is reliable for rallying the public to pay higher rates for cleanup programs.

Meanwhile, Puget Sound's broader stormwater problem has been an orphan, without either a ratepayer base to tap for money or an easy, two-word rallying cry — raw sewage — to create a constituency.

Challenging the order of priorities has seemed suspect, said Don Theiler, head of King County's wastewater division from 1997 to 2007.

"When you try to talk about it, it sounds like you are trying to shirk your responsibility," Theiler said. "But to be able to document a real benefit that anyone is experiencing from this CSO work is very difficult. When there are overflows, it is mostly winter, and no one is out there swimming, and in terms of drinking the water, nobody does."

Chuck Clarke used to run SPU, and the EPA Region 10 office before that. When he ran SPU, he was startled to realize how small a piece of the stormwater problem that by now CSO discharges represent. "For me, it's about where do you get the biggest increment of benefit?" Clarke said. "I want to get stuff out of Puget Sound."

Ruckelshaus says he wants a fresh approach to the problem. "Governance is the screaming need here," he said. "We need an intervention. Almost like an alcoholic intervention, with all the people in the room and say look, we don't want to spend this money on things that are of lesser value than things that would otherwise make a lot more progress.

"Maybe it's time to pull everybody together and say, 'This is crazy. Let's fix this.' "

Lynda V. Mapes: 206-464-2736 or lmapes@seattletimes.com

Bradner Gardens Park

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Park History

Bradner Gardens Park exists today as the result of the vision of a group of determined citizens.

In 1971, the City of Seattle purchased land for the 1.6 acre park with $71,000 of Forward Thrust funds. It was one of 19 parcels purchased around the city for neighborhood parks. Bradner was not immediately developed into a park. Instead the land was leased to the Seattle School District for the John Muir Middle School Annex until 1975. From 1975 to 1993, buildings on the site served the Central Youth and Family Service.

The Seattle P-Patch Program established a community garden on the site in 1987 to provide gardening space for Mien immigrants from Laos. Neighborhood residents from the diverse Mt. Baker community joined them in gardening. Basketball hoops, built when the school occupied the site, and the p-patch provided an ad hoc community gathering place.

With the completion of I-90 through the neighborhood, long-vacant land suddenly became desirable for development, especially housing. In 1994, community residents of the South Atlantic Community Association (SASCA) became aware of a City plan to build housing on the Bradner site instead of the park for which it was purchased in 1971.

Groundbreaking 1998

Community residents applied for and received a Small and Simple Grant of $4500 to hire a landscape architect to develop a concept plan. Barker Landscape Architects and SASCA hosted two design charettes for neighbors and users of the site to brainstorm ideas for what the park should look like. They developed the concept plan in 1995 that included demonstration gardens, a basketball court, pavilion, entry arbors, play area and accessible gravel paths.

This plan was met with skepticism and a two-year battle with city hall ensued. Unable to convince the mayor to preserve this open space for a park, several citizens drafted an initiative that became Initiative #42 Protect Our Parks. It stated that land that was owned by the City for park use could not be sold, traded or used for non-park use unless it was replaced with like kind in the same neighborhood. Initiative #42 became a City of Seattle ordinance #118477 in 1997. It saved Bradner from non-park development and has helped other neighborhoods around the city fight unnecessary encroachments to parkland.

Friends of Bradner Gardens Park applied to public agencies for grants to build the park. Construction began in 1998. The last stage of construction, renovation of the utility building, was completed in 2003. It was a Pro-Park Levy project with assistance from the Friends of Bradner Gardens Park. The building provides an ADA restroom, garden tool storage and a small meeting space, and serves as a model for sustainable design and building practices.

The horticultural design and stewardship of the park was originally provided by a coalition of the P-patch Program, Seattle Tilth, the WSU King County Master Gardener Program, the Washington Native Plant Society, and many individuals and families in the Mount Baker neighborhood. While the makeup of the coalition has changed over the years, the Friends of Bradner Gardens Park would like to salute the founding organizations and people who built this park. An astounding 40,000 hours of volunteer labor went into the realization of this uniquely beautiful oasis in the city of Seattle.

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Response to O'Brien Comment 1

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including (a) mailing the Notice of Availability (including notice of the public hearing) to non-required organizations and individuals and (b) mailing postcards to approximately 1,700 neighbors bordering the project, apprising them of the Draft EIS public hearing and soliciting comments on the Draft EIS. The Notice of Availability distribution list is included in Appendix A and includes the Lakewood Seward Park Community Club at 4916 S Angeline Street, as does the distribution list using for mailing the scoping notice. Neither the scoping notice nor the Notice of Availability were returned to SPU as undeliverable, so SPU believes they were delivered to the correct address.

In 2013, there will be an additional opportunity for the public to provide input on the Tennis Courts Alternative and the Parking Lot Alternative at a City Council public hearing to address the requirements of Seattle City Ordinance 118477 (a.k.a., "Initiative 42"). Per Initiative 42, the Seattle City Council must hold a public hearing prior to making a determination whether there is "no reasonable and practical alternative" to constructing the facility in Seward Park. Similarly, the Council will decide which of the two locations within Seward Park (tennis courts vs. parking lot) is preferred. SPU expects the City Council to hold the public hearing in 2013.

Response to O'Brien Comment 2

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including sending postcards to all neighbors bordering the project, soliciting input during the scoping process and soliciting comments on the Draft EIS. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to O'Brien Comment 3

The storage tank will be below ground with minimal above grade features visible. Restoration will include native vegetation in keeping with the Olmsted design principles and character of the park. The Olmsted Brothers did routinely work with engineers and utility companies in the development of parks to incorporate existing or proposed infrastructure. An example of this still exists today with Olmsted's design of Volunteer Park integrating the reservoir and water tower into the park.

Response to O'Brien Comment 4a

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, to protect public health and water quality in Lake Washington. This project is also required by federal and state law.

Response to O'Brien Comment 4b

The existing CSO Storage Facility 8 (in Seward Park) does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

The storage facility will be underground and will be accessed by hatches at grade in the parking lot and the area between the tennis courts. There will be a few above grade features adjacent to the parking lot, which will likely be screened by landscaping.

Response to O'Brien Comment 5

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, to protect public health and water quality in Lake Washington. This project is also required by federal and state law.

Response to O'Brien Comment 6

SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Each of the options was evaluated based on its technical feasibility, financial cost, and social and environmental impacts. SPU did consider a longer storage facility along Lake Washington Boulevard South. The storage facility was almost twice as expensive as the cost of the underground storage alternatives in Seward Park. In addition, the construction impacts along Lake Washington Boulevard were considered greater than the impacts of the Seward Park alternatives, primarily because of impacts on transportation. The EIS has been revised so that there is an explanation of the full range of alternatives that SPU considered to reduce CSOs in Basin 44 and how SPU narrowed down the alternatives.

Regarding the cost of the sewer program and the Seattle Times article on July 30, 2011, SPU disagrees with the conclusion of the article that the program will have little benefit. Lake Washington has been identified by the Department of Ecology as a water body that is impaired with fecal coliform bacteria. Combined sewer overflows (CSOs) are a major contributor of fecal coliform pollution to Lake Washington. Sewage overflows contribute high concentrations of pathogens, metals, ammonia, nitrogen, and toxic organics to our waterways, with risks to public health and the environment. SPU's CSO reduction program to reduce sewage overflows to Lake Washington will provide public health and environmental benefit while also complying with federal and state regulations. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to O'Brien Comment 7

SPU is aware of Seattle City Ordinance 118477 (a.k.a., "Initiative 42"). Pursuant to Section 1 of the ordinance, the Seattle City Council will hold a public hearing prior to selecting a location for the underground storage tank in Seward Park. Pursuant to Section 3 of the ordinance, a subsurface or utility easement that is "compatible with park use" does not require replacement property. Therefore, the Seattle City Council will need to make a determination whether there is "no reasonable and practical alternative" to constructing the facility in Seward Park and whether the proposed underground storage tank is "compatible with park use" and therefore does not require replacement property. SPU expects the City Council to make these determinations in 2013, following a public hearing where the public will have an additional opportunity to provide input on the alternatives. The EIS has been revised so that this process and the anticipated timeline are explained.

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City of Seattle → Seattle Public Utilities
Attn: Betty Meyer
PO Box 34018
Seattle 98124-4018

Seattle Public Utilities | Protecting Seattle's Waterways

O'Connor

Draft Environmental Impact Statement Comment Form

Seattle Public Utilities issued a Draft Environmental Impact Statement (EIS) on the proposed Henderson Basin 44 CSO Reduction Project on September 17, 2012. The Draft EIS analyzes the probable environmental impacts of building and operating the Henderson Basin 44 CSO Reduction Project. The public has been invited to review and comment on the Draft EIS. Please tell us whether additional information or analysis needs to be considered. All comments are welcome, but detailed comments on the analysis, together with suggested solutions, allow us to respond more effectively. Seattle Public Utilities will respond to comments in a Final EIS, which is scheduled for publication in December 2012.

Additional comments may be submitted by e-mail or by U.S. Postal Service. To be considered in the Final EIS, comments must include a name and address and be e-mailed or postmarked no later than October 17, 2012 at midnight.

1 As 18-year homeowners in the Seward Park area, we are concerned that the proposed "Tennis Court" alternative requires cutting down more trees — including mostly native trees — than the "Parking Lot" alternative.

2a We are also concerned that the Tennis-Court alternative puts neighboring property and sewer lines at greater risk

2b and also locates the tank in a smaller, more environmentally sensitive location.

3 We urge you not to pursue the Tennis-Court alternative.

Name: Tom & Christine O'Connor

Address: 5211-57th Ave. South

City, Zip: Seattle 98118

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Response to O'Connor Comment 1

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to O'Connor Comment 2a

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to O'Connor Comment 2b

Both alternative sites are near the base of slopes. Both slopes are approximately 20-25 feet high and are about 2H:1V (horizontal to vertical). The toes of the slopes are 40 feet or farther from the proposed excavations. Additional geotechnical information will be gathered at the selected site to aid in assessing impacts of the excavation on the stability of the existing slope. If the geotechnical conditions and analyses indicate a likelihood of slope instability due to the proposed construction, such instability will be mitigated by implementing an appropriate design, using appropriate construction practices, and monitoring the slope and other affected facilities during construction. The current excavation support system concept is a secant pile wall. This wall system is installed into the ground prior to any excavation occurring – there will therefore not be an instance of an unsupported excavation near the toe of the slope. Additionally, effects of the tank excavation on the slope's stability (if any) could be readily mitigated by adding additional reinforcing in the piles, deepening the piles, or increasing the pile thickness.

Within the construction impacts area for either alternative, there are no specially designated upland habitats and the special shoreline habitat designations apply to both alternatives.

Response to O'Connor Comment 3

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). As you have noted, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

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Meyer, Betty

From: Talbert, Paul [ptalbert@fhcrc.org]
Sent: Wednesday, October 17, 2012 1:22 AM
To: Meyer, Betty
Subject: Fwd: Andrews Bay; Seward Park Sewer Project - FoSP meeting Oct6, CSO meeting Oct8,

Dear Ms. Meyer:

Please allow me to pass on this comment from Richard Ranhoffer on the EIS for the Henderson Basin 44 CSO project (below). Mr Ranhoffer is currently traveling and asked me to submit this comment on his behalf. Mr. Ranhoffer lives at 5912 Seward Park Avenue, 98118.

Paul Talbert
4601 S Brandon St
Seattle, WA 98118-2355

From: "Eartha Ranhofer" <d.ranhofer@gmail.com>
To: "Paul Talbert" <ptalbert@fhcrc.org>
Cc: "sewardparkfriends" <sewardparkfriends@gmail.com>
Sent: Friday, October 5, 2012 11:34:07 AM
Subject: Re: Andrews Bay; Seward Park Sewer Project - FoSP meeting Oct6, CSO meeting Oct8,

Paul,

1 Would like for you to have my proxie for the FoSP meeting. As you can expect, I am and have always been opposed to both sites covered in the CSO EIS. I am even more opposed now due to the potential damage revealed in the EIS to the adjoining homes from the blasting. The EIS does not address the additional trees that will be destroyed when all of the adjoining homes sewer lines that run down the parks slope will require repair/replacement due to the blasting. My second choice from the Meadow would be the South parking lot. The tennis courts are not a good choice for the Seward Park CSO project.

Richard
d.ranhofer@gmail.com

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Response to Ranhofer Comment 1

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

Rock excavation for the project could be accomplished using drilling and controlled blasting methods or mechanical excavation using bulldozers or using hydraulic impact hammers mounted on tracked excavators. Each method has advantages and disadvantages, but in each case, potential construction-related impacts (e.g., ground-borne vibration, noise, dust, etc.) can be mitigated by establishing and adhering to standard industry thresholds and limiting criteria for noise, vibration and dust. With regard to rock excavation using drilling and blasting methods, potential negative impacts associated with excessive ground-borne vibrations, fly rock, and air blast (noise) concerns can be mitigated using controlled blasting methods. If blasting is used for excavation, specify a threshold value for air overpressure based on acceptable levels; control the powder factor, the charge weight per delay, and delay pattern; and provide proper stemming, blasting mats, and proper relief for each blast.

The proposed excavation is approximately 60 feet wide, 450 feet long, and 35 to 40 feet deep, with the lower 30 to 35 feet of the excavation in rock. The rock mass consists of very low to low strength, fresh (unweathered) to completely weathered (soil like) siltstone and sandstone of the Blakely Formation. It is anticipated that the excavation performed using drilling and controlled blasting methods will be accomplished using 25 to 35 individual blasts, with each blast occupying half the excavation width and for a distance of 25 to 40 feet along the long axis of the excavation. Blasting will progress excavating one side then the other as the excavation is advanced through the excavation footprint. Following each blast, a sufficient volume of the blasted rock will be removed prior to initiating the next blast. The resulting open space (or relief) provides an open area for rock blasted during a subsequent blast to move into. Sufficient relief, combined with using appropriate powder factors and delay patterns (sequence that the explosives in individual holes are detonated) will reduce the magnitude of ground-borne

vibration beyond the final excavation line and space above the excavation. A threshold value for air overpressure (air blast or noise) will typically be set based on acceptable levels, and will be specified in the contract documents.

Often a series of test blasts are performed in advance of production blasting. These test blasts will be done on site, within the footprint of the facility to allow the contractor to assess the appropriate hole spacing, delay pattern, powder factor, etc. to achieve optimum rock breakage, while meeting the contract requirement for noise and ground borne vibrations. Explosive products, such as dynamite and blasting agents, and initiators and blast hole delay devices will not be stored on site for more than one day. These components will be brought to the work site and deployed into previously drilled blast holes and detonated each day a blast is scheduled to occur. These components will be transported by truck in separate and locked containers to prevent unintended detonation. All work will be performed under the direction and supervision of a licensed blaster, following the state of the practice as well as all local, state, and federal regulations.

A final siting decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Meyer, Betty

From: Jeffrey Schouten [JSchouten@aol.com]
Sent: Sunday, October 14, 2012 10:01 PM
To: Meyer, Betty
Subject: Re: Draft Environmental Impact Statement (EIS) on the proposed Henderson Basin 44 CSO Reduction Project.

Re: Draft Environmental Impact Statement (EIS) on the proposed Henderson Basin 44 CSO Reduction Project.

Dear Ms. Betty Meyer,

1 I live at 5920 Seward Park Ave. S., just above the parking lot next to the tennis court in Seward Park. I have major concerns about the lack of completeness and the conclusions made based on the evidence in the draft EIS referenced above. Additionally, I am very distressed about the lack of adequate notice as to the previous public hearings and the selection of the tennis court location, so called Alternative 1. Only through last minute notices from my neighbors did I even learn that the tennis court location was chosen and that there was a hearing on
2 October 8, 2012 for comments on the draft EIS. I was able to attend that meeting but did not make public comments as I had not read the draft EIS, having just learned of its existence and the hearing a few days before the meeting.

In reviewing the draft EIS, it has become clear that park users and park events took president over the immediate homeowners and the neighborhood.

3
- • Residences bordering the park were not included in the site scoping.
- • All Alternative site conclusions were made based only on impact on to park users and considerations solely within the park boundaries.

4 The Parking Lot Alternative 2 is a superior location from the environmental and neighboring homes perspective:

5
- • 57% of the attendees at the Open House hearing prior to the draft EIS comment meeting thought the Parking Lot Alternative was the preferred location.

6
- • Noise considerations in the draft EIS were limited to park users, and not detailed as to the impact of the home owners for the up to the 30 months construction phase.

7
- • Basin 44 previous options presented in the earlier meetings were private property, Seward Park parking lot or Lake Washington Blvd. (Re: adequate legal notice: the neighbors were not aware of the change in site location that had previously discussed in earlier public meetings until very recently).

Issues with Alternative 1 - Tennis court storage:

8 • This is a very narrow location squeezed between the water and an environmentally critical hillside. The hillside is a >40% grade. Development in steep slope areas is typically prohibited to ensure long-
9 term stability. More trees will be lost with this option as well.

10 • Loss of the use of the only local tennis courts for over 2 1/2 years. The tennis court option was favored by the Parks Department apparently because they thought that would provide new tennis courts, where as now it is apparent that tennis courts will be replaced with either option.

11 • Sound can travel north and south rather than mainly south with Alternative 2. Decibel levels can reach 80 decibels during normal construction (about as loud as standing 3 feet from a garbage truck); add the sound of jackhammers, blasting of bedrock and pile drivers.

12 • Potential structural damage to 10 houses versus uninhabited park structures.

13 • 43 trees removed versus 26 trees (15 of which are the old poplars on the cement bulkhead).

14 • Financial impact to neighbors.

15 • Sewer connection damage to the homes directly above the park from ground vibration was not considered. The sewer line from our home is 60 years old and runs right under through construction site. Repairs or replacement may require additional tree removal on the slope.

Issues with both Alternatives:

16 • Possible lead contamination (ASARCO smelter plume) in the dust when the parking lot or courts are removed.

17 • Possible removal of some Garry Oaks (what are "exceptional" trees in the draft EIS?).

18 • Access to areas of the park will be restricted for up to 2 1/2 years, shifting parking into the local neighborhoods.

19 • Huge tank leads to more off gassing during the summer. Can the new smell reduction process hand it?

20 Currently the once a week vacuum pumping of the tank by the parking lot is right below our house. The pumping is very loud and starts between 5-6 am. How much additional noise long term will result from the new tank?

21 What do residents do when problems start to arise during the construction process?

What is the recourse?

Who is to be called?

22 Who assumes financial responsibility for any losses incurred to sewer lines?

23 I would sincerely hope that serious consideration is given to reviewing the selection of Alternative 1. Additionally, the inadequate EIS should be revised with the added considerations noted above before the final

site section is finalized. It does not serve the City of Seattle well if the site selection process is flawed by inadequate notice to the homeowners most impacted by the selection and the EIS and environmental review is not complete. The Seattle City Council will have to review the evidence and record and reconsider the selection if the process is not properly vetted and the EIS incomplete and erroneous.

Sincerely,

Jeffrey Schouten, MD, JD

5920 Seward Park Ave. S.

Seattle, WA 98118

JSchouten@aol.com

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Response to Schouten Comment 1

All of Mr. Schouten's questions and comments have been addressed (see also responses to Schouten Comments 2 through 23) and the Final EIS is complete. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to Schouten Comment 2

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including mailing postcards to approximately 1,700 neighbors bordering the project, apprising them of the Draft EIS public hearing and soliciting comments on the Draft EIS. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, during the proceedings that are required to address Initiative 42, prior to the City Council making a final decision on project siting.

Response to Schouten Comment 3

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. The Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality).

A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Schouten Comment 4

Comment noted. The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. The Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality).

A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Schouten Comment 5

The Determination of Significance/Scoping Notice and the Community Guide and other materials prepared for the EIS Scoping meeting described two alternatives within Seward Park: Alternative 1 (Parking Lot Alternative) and Alternative 2 (Tennis Courts Alternative). There was nothing in the scoping meeting materials indicating a preferred choice, and it would have been inappropriate to do so prior to conducting an evaluation of the environmental impacts. Once the environmental analysis was conducted, SPU identified the Tennis Courts Alternative as SPU's preferred alternative, and this preference was noted in the Draft EIS. For the Final EIS, numbers have been removed from the names of the project alternatives to help ensure clear communication.

Response to Schouten Comment 6

Sections 13.2.1.1 and 13.2.1.2 describe construction and operation noise impacts for both the nearby residents and park users.

Response to Schouten Comment 7

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public involvement process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final project siting decision.

Response to Schouten Comment 8

Both alternative sites are near the base of slopes. Both slopes are approximately 20-25 feet high and are about 2H:1V (horizontal to vertical). The toes of the slopes are 40 feet or farther from the proposed excavations. Additional geotechnical information will be gathered at the selected site to aid in assessing impacts of the excavation on the stability of the existing slope. If the geotechnical conditions and analyses indicate a likelihood of slope instability due to the proposed construction, such instability will be mitigated by implementing an appropriate design, using appropriate construction practices, and monitoring the slope and other affected facilities during construction. The current excavation support system concept is a secant pile wall. This wall system is installed into the ground prior to any excavation occurring – there will therefore not be an instance of an unsupported excavation near the toe of the slope. Additionally, effects of the tank excavation on the slope's stability (if any) could be readily mitigated by adding additional reinforcing in the piles, deepening the piles, or increasing the pile thickness.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel). It is unlikely that tree will be removed for sewer repairs.

Response to Schouten Comment 9

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Schouten Comment 10

As described in Sections 4.2.1.1, 4.2.2.1, 4.2.3.1 and 4.2.4.1, park users will need to seek other tennis courts during construction of either alternative, and there are eight other public tennis facilities within the vicinity. Four of those tennis facilities are within 2 miles of Seward Park; the other four tennis facilities are within 3 to 7 miles of Seward Park. As described in Section 3.4, the Seward Park tennis courts will be completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, unless Seattle Parks personnel decide during the design stage that they will prefer a different use (e.g., basketball courts, picnic area).

Response to Schouten Comment 11

Sound disperses in all directions from a noise source as spherical waves. Terrain differences between the Tennis Courts Alternative and the Parking Lot Alternative and nearby homes are not sufficient to alter the construction noise levels reported in the EIS. The largest determinant of how noise is perceived is the distance between the noise source (i.e., construction equipment) and the receptor. The greater the distance, the more the noise will be lowered over that distance. Also important is the nature of the intervening terrain (e.g., grass, trees, and other vegetation) that will absorb or reflect noise. As shown in Table 13-1 of the EIS, the Parking Lot Alternative site is farther away from residences than is the Tennis Courts Alternative site with intervening vegetation. As a result, the modeled construction noise levels at the residences under the Parking Lot Alternative are less than those under the Tennis Courts Alternative.

Response to Schouten Comment 12

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground.

After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Schouten Comment 13

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Schouten Comment 14

Analysis of potential economic impacts including effects on the market value of homes is not required by SEPA and was excluded from the scope of the EIS.

Response to Schouten Comment 15

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired.

Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Schouten Comment 16

The Asarco smelter plume was not included in the Phase I Environmental Site Assessment technical report. However, relevant information on Ecology's website has been reviewed and the area under consideration is located in the 0-20 parts per million (ppm) arsenic area of the smelter plume. According to Ecology, areas with concentrations of arsenic within this range do not require remediation.

http://www.ecy.wa.gov/programs/tcp/sites_brochure/tacoma_smelter/2011/techAssist.html

Response to Schouten Comment 17

No Garry Oaks (Quercus garryana) will be removed as a part of this project. Existing Garry Oaks are primarily located east of the parking lot, outside of the construction limits, see Figure 7-2. "Exceptional tree" is defined by Seattle Department of Planning and Development Director's Rule 16-2008 as a tree that: 1) is designated as a heritage tree by the City of Seattle; or 2) is rare or exceptional by virtue of its size, species, condition, cultural/historic importance, age, and/or contribution as part of grove of trees. Table D-1 (in appendix D) lists all of the trees in the project area and identifies which trees are considered exceptional. The proposed project would affect trees that are classified as exceptional based on their size.

Response to Schouten Comment 18

Sections 4.2.1.1 and 4.2.2.1 describe the impacts to parking, including the fact that during certain times (e.g., summer weekends, special events) vehicles will be displaced from Seward Park into the neighborhood.

Response to Schouten Comment 19

The existing CSO Storage Facility 8 (in Seward Park) does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

Response to Schouten Comment 20

SPU and Parks looked into the noise you reported hearing. Parks discovered that, because of high parking lot usage during the summer, maintenance staff had been sweeping the parking lot very early, starting shortly after 5:00 am. They have directed staff not to start the sweeper before 7:00 am and have asked that neighbors let them know if the problem reoccurs. For concerns specific to Seward Park, contact the Southeast District Maintenance Crew Chief at 206-386-1916. For general concerns, call the Parks Department information line at 206-684-4075.

Noise levels from operations and maintenance of the proposed project will be expected to comply with the residential day and night maximum allowable noise limits and are not anticipated to increase the noise levels at the nearby residences above existing measured noise levels. Noise generating equipment, such as fans from the odor control system, will be located below ground and maintenance will be infrequent and occur only during daytime hours, except in emergency situations. The noise levels from the equipment are lower than the existing noise levels measured at the nearby residences and park facilities.

Response to Schouten Comment 21

SPU will provide a list of contact names and phone numbers for people to contact if problems arise during construction.

Response to Schouten Comment 22

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve

drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Schouten Comment 23

Mr. Schouten's questions and comments have been addressed (see also responses to Schouten Comments 1-22) and the Final EIS is complete. SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including mailing postcards to approximately 1,700 neighbors bordering the project, apprising them of the Draft EIS public hearing and soliciting comments on the Draft EIS. The final siting decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy. Commenter's assertions do not provide a basis for reopening the SEPA process.

City of Seattle
Seattle Parks and Recreation

October 17, 2012

Seattle Parks

Betty Meyer, SEPA Responsible Official
Seattle Public Utilities
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

Sent via e-mail: betty.meyer@seattle.gov

Re: Henderson Basin 44 Combined Sewer Overflow (CSO) Reduction Project - DEIS Comments

1 Seattle Parks and Recreation (Parks) appreciates the opportunity to provide comments on Seattle Public Utilities' Henderson Basin 44 Combined Sewer Overflow (CSO) Reduction Project; Draft Environmental Impact Statement (DEIS). Parks recognizes the necessity of the proposed CSO project and the benefits provided to the City upon the project's completion. That said, Parks has concerns related to the potential impacts associated with the construction and long term operation of the proposed CSO facility which will be located within Seward Park. The following comments are based on SPU's preferred location which places the storage tank under the existing tennis courts located in the Southwest corner of Seward Park. Comments would be similar should the preferred location move to Parking Lot 2, also located within Seward Park. Parks is supportive of the tennis court site as the impacts to the park, park users and park operations are less than siting the CSO facility in Parking Lot 2.

2 Parks' central concern is that the placement of the CSO facility within Parks' property forever constrains the use of the area where the tennis courts are currently located. Parks will be forever precluded from changing the use of the site to provide a different park amenity and/or recreational opportunity due to the underlying utility facility. Should stormwater regulations become more stringent in the future and SPU need to expand these facilities, even more Park property could be needed.

3 As noted in the DEIS, Seward Park is heavily used by both nearby residents on a daily basis and a much broader group of citizens on weekends and during one of the many special events that occur throughout the year at Seward Park. The potential full closure of Parking Lot No. 2 for up to 30 months, for construction staging and other construction related uses, would severely limit access to recreation at Seward Park which is unacceptable to Parks. Use of this parking lot is critical to the success of events and it provides easy access to the only accessible picnic shelters in the park. The DEIS indicates that contractor staging and parking may occur on two grass areas near the tennis courts. Use of these areas will prohibit recreational activities at these two locations, which is not acceptable to Parks. In addition, Parks would like to state that use of the Seward Park meadow for contractor staging or parking would be unacceptable because it would prohibit recreational uses in the meadow. SPU does note in the DEIS that there may be alternatives to the use of these park spaces and the complete closure of Parking Lot 2. Parks looks forward to working with SPU and SPU's chosen contractor to ensure that SPU has the construction access it needs and also that park visitors and event sponsors aren't unnecessarily disrupted during the estimated 30 months of construction.

❖Planning and Development Division ❖
800 Maynard Avenue South, 3rd Floor, Seattle, Washington 98134-1336
Tel: (206) 233-3872, Fax: (206) 233-3949
An equal employment opportunity, affirmative action employer. Accommodations for people with disabilities provided upon request.

4 Seward Park and visitors to Seward Park will be impacted by the proposed construction and subsequent operation of the CSO facility. There will be no tennis courts in Seward Park for the public to use for the duration of the construction. Visitors will be subject to construction noise and dust. Access and parking at the site will be disrupted. The area under the existing tennis courts will forever be in utility usage. These are both short term and long term impacts. Parks expects that SPU will adequately and appropriately mitigate for the short term construction related impacts and the long term permanent impacts associated with siting a utility facility in a public park. Mitigation must be based on the impacts to Seward Park by the proposed CSO facility in perpetuity and both the temporary and permanent operational impacts of the facility on the public's use and enjoyment of Seward Park; and, Seattle Parks and Recreation's ability to operate the park to serve current and future needs of the public and the environment. Mitigation may include the funding of identified capital project(s) and improvements to park infrastructure and recreational opportunities. Some mitigation opportunities are noted in the DEIS. Parks will work with SPU to outline the appropriate mitigation measures between now and SPU's issuance of the Final EIS. In addition, Parks' notes that a Revocable Use Permit (RUP) will be required for the construction of the proposed CSO facility within Seward Park. Conditions may be attached to the RUP to address immediate concerns such as construction impacts, traffic operations, construction staging and returning the site to better that its pre-construction condition.

Parks also looks forward to working cooperatively with Seattle Public Utilities throughout the process to ensure that CSO construction can be completed in a timely manner in a way that impacts to Seward Parks and park visitors are minimized. Thank you for your consideration of these comments as you move forward. If you have any questions regarding these comments, please contact me at 206.684.7048 or david.graves@seattle.gov.

Regards,

David Graves, AICP
Senior Planner
Planning & Development Division
Seattle Parks & Recreation

Cc: Michael Shiosaki, Planning & Development Division Director

❖Planning and Development Division ❖
800 Maynard Avenue South, 3rd Floor, Seattle, Washington 98134-1336
Tel: (206) 233-3872, Fax: (206) 233-3949
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Response to Seattle Parks Comment 1

Comment noted. The EIS evaluates the impacts of construction and long term operation and maintenance of each of the alternatives. The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). The EIS also acknowledges (see Section 1.4) that siting is a significant area of controversy, and that a final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code.

Response to Seattle Parks Comment 2

SPU has consulted with Parks throughout the facility siting process and will continue that collaborative process through facility design. Parks concerns and priorities have been a significant consideration in the development of options at the site. It is acknowledged that the presence of an underground storage facility will limit the use of some types of park facilities, but experience throughout the City in areas such as Jefferson Park – where natural features and artworks have been installed on top of reservoirs – has illustrated the potential for considerable flexibility for long-term recreational uses above below-ground utilities. The proposed locations for the underground storage facilities and UPARR replacement area would maintain the existing park uses; do not preclude any future uses or projects identified within the 2011 Seattle Parks & Recreation Development Plan; and are consistent with the Seward Park Vegetation Management Plan, the Seward Park Comprehensive Trail Plan, and the Lake Washington Boulevard Vegetation Management Plan. SPU will work closely with Parks to design and install a facility that provides long-term flexibility for Parks while meeting SPU's mandated water quality requirements.

Response to Seattle Parks Comment 3

SPU will work closely with Parks to provide adequate access to Seward Park during construction that avoids unnecessary disruption to park visitors. All contractor staging areas located on Parks property will be mutually agreed upon between SPU and Parks.

Response to Seattle Parks Comment 4

SPU coordinated closely with Parks during the facility siting process, incorporated Parks' considerations into the overall project development, and is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA authority and requirements. The EIS outlines construction-related noise impacts and measures to reduce those impacts in Sections 13.2 and 13.3, respectively. Construction-related dust impacts and measures to control dust are described in Sections 10.3 and 10.5. Construction-related traffic

impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either as part of the City Council process to address Initiative 42 and the City's land use codes or during the process to obtain a Revocable Use Permit. The project will meet all applicable permit requirements from all applicable regulatory entities. SPU will continue to work with Parks to develop a facility that fulfills the City's legal obligations for the reduction of sewage discharges while addressing short- and long-term recreational impacts at the site.

Simmons Blaine

Meyer, Betty

From: Betina Simmons [betinasimmons@hotmail.com]
Sent: Wednesday, October 17, 2012 4:34 PM
To: Meyer, Betty
Cc: maura whalen
Subject: Re: Proposed CSO tank at Seward Park

Hello,

I co-chaired the Seward Park playground with Maura and I echo her sentiments on this matter. It took our community three years and tireless fundraising to the tune of $750,000 to build this playground. It is one of a very few places that people of all ages, from all of the diverse communities in our area gather. It would be a hardship to many kids and families to
1 disrupt this well used and well loved play space again after waiting such a long time for it. As Maura said, the play area draws many people to the park and neighborhood.

Placing the tank beneath the tennis courts would cause far less disruption to far fewer people.

Sincerely,

Betina Simmons Blaine
Former SPPIF Co-Chair & Seward Park resident and parent

Sent from my iPad

On Oct 16, 2012, at 8:22 PM, "Maura Whalen" <sppif@mac.com> wrote:

> To Whom It May Concern:
>
> I am writing to express my concern about the proposal to build the 2.4M gallon CSO tank in Seward Park. I support the preferred alternative to place the tank under the tennis courts.
>
> As a 13 year resident of Seward Park and as the Co-Chair of the volunteer group which led the Department of Neighborhood project to renovate (re-build!) Seward Park's playground, I have grave concerns about our beloved and well used play area being ripped up for the installation of the CSO tank. Construction will cause disruption wherever it is decided to be placed but my firm belief is that the tennis courts are a better bet for several reasons. For starters, the tennis courts are not nearly as well used as the play area is and they are in dire need of renovation which could easily happen post the installation of the tank. Southeast Seattle has tremendous growth of diverse young families whose children need a place to play and interact with one another in a healthy way. Our play area provides that. At any given time, rain or shine myriad people of all ages can be seen enjoying the play area. It is without argument that the creation of Seward Park's play area has made an informal, outdoor living room drawing people from numerous neighborhoods throughout the city and beyond. To take this away would be a tragic error.
>
> On behalf of the Seward Park Playground Improvement Foundation, please cast a loud vote for placing the tank under the tennis courts.
>
> Sincerely,
>
> Maura Whalen
> 5215 South Orcas Street
> Seattle, WA 98118

> 206-281-8655
>
>

Response to Simmons Blaine Comment 1

Thank you for your comment.

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Allan L Smith
4709 S. Orcas
Seattle, Washington 98118
206- 723-7381
Oct. 8, 2012

Betty Meyer, SEPA Responsible Officer
RE Seward Park CSO project

I'm not necessarily opposed to the proposed tank at Seward Park. But I would suggest that the 38.000 approximate metric tons of green house gases generated by the project being written off as "as far less than the gas emissions for the year 2008," is perhaps a little too facile. In death by a thousand cuts, climate change- as perhaps we are beginning to endure in our current drought- might have overreaching reprecussions. It could be generating a lethal increase in temperature in the Lakewhich could affect salmon as well as other fish. The number 38,000 is problematic moreover because where the 13000 or so cubic yard is trucked to can not be factored into the number in any specific calculation because the destination for the fill is currently not known. As a retired carpenter who regularly commuted to work by bicycle, Iwas bamused and dismayed to see that despite the bicycle lobby lording over our political landscape as an expensive assemblage of charrots, bike lanes, boxes and boulevards covers our streets, only car pooling for workers is suggested to alleviate a parking shortage at Seward Park.

Although it is easy for me to say because I enjoy traveling only by foot, bicycle or hearing and reading accounts of others, I'm discouraged by environmentalist friends. Acquaintences such as Robert Pyle in his book Mar iposa ROad not only wax enthusiastic about driving and flying all over the country in pursuit of

seeing a maximum # of species of butterflies within a year, but at the end of his book has suggestions about how others might best follow his example. Lots of environmentalists driving-flying us into a hotter future while waiting for government? science? Republicans? to wave the magic wand.

Finally I would like to question t8.6

> No significant unavoidable adverse impacts associated with transportation are anticipated during or after construction.

I live at 4709 S. Orcas. Truck traffic shakes my house. My foundation is old without rebar and it rests on clay soil. Orcas is one of the two proposed routes for construction traffic. Just as the trucks are t tearing up the grating on the Montlake Bridge as a result of the

3 construction for the new Husky stadium, I can weell imagine that truck traffic could be sufficiently concentrated in brief periods of time, particularly during the winter, that the City would be hard pressed to maintain Orcas to even its current deporable condition. The trucks hauling fill and the cement trucks could increase the number and severity of potholes generating enough vibration to damage dwellings and other structures along the route.

I'm not concerned about forcefully expressing my concerns about the potential for damage, because the EIS is simplistic in its analysis of traffic. The supposedly 'imperceptible' less than

4 one per cent increase of traffic on Rainier Avenue seemingly fails to take into consideration that especially dump trucks with trailors take up far more space than most vehicles. That and the destructive

5 impact of that weight on the Avenue raises the conundrum for bicyclists and other drivers- how to keep track of trailors

while negotiaint pot holes and standing waves. The adverse impacts are more likely to be better described as a 100% increase.

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Response to Smith A Comment 1

On December 3, 2007, the Seattle City Council adopted Ordinance 122574, requiring City departments to evaluate greenhouse gas (GHG) emissions as part of environmental review under SEPA. The City of Seattle has adopted a worksheet developed by King County, Washington, used to estimate lifecycle GHG emissions for a range of standard development projects. For construction truck trips, we have assumed a 50 mile round trip as the distance traveled to dispose of construction waste.

Response to Smith A Comment 2

Comment noted. Bicycling, rather than driving, could alleviate parking issues in Seward Park.

Response to Smith A Comment 3

As described in Section 8.5 of the EIS, SPU will schedule the construction of project elements so they do not overlap, when possible, to reduce the number of vehicle trips occurring at one time. This will reduce the impacts associated with ground vibration from truck traffic along Orcas. SPU does not expect truck traffic along Orcas to cause enough vibration to create settlement or structural concerns at your home.

Response to Smith A Comment 4

Traffic modeling performed for the EIS incorporated the fact that construction trucks are larger than standard vehicles.

Response to Smith A Comment 5

Section 8.4.1.1 acknowledges that the presence of large trucks on the construction route will impact bicyclists.

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Meyer, Betty

From: Robert Smith [bobakemi@comcast.net]
Sent: Sunday, October 07, 2012 11:38 AM
To: Meyer, Betty; SPU_HCSO
Cc: Robertson, Kathy
Subject: Henderson Basin 44 DEIS Comments

Betty Meyer, SEPA Responsible Official
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

cc: Kathy Robertson, Project Manager
Henderson Basin 44 CSO

Comments from Robert Smith, 9835 Arrowsmith Ave So, Seattle, Wa 98118
email: bobakemi@comcast.net

Comment No. 1 - Regarding disposition of shoreline trees at Preferred Alternative 1

Chapter 7, states that 43 trees will be removed in Alternative 1.

Even thought the footprint of the storage tank is set back a distance from the surrounding trees, no explanation is offered as to why the trees must be removed. No effort has been made to explain the engineering reasons why that impact is made necessary. During the public meetings process, when this question was raised in regard to the lines of poplars at each parking lot, Engineer Andrew Lee explained that it wouldn't be known until engineering studies could proceed further whether the the poplars could remain or whether the design engineers would conclude that the tank excavation width would threaten the root systems. In the case of individual trees on the inland side of the disturbance, he explained there was a greater possibility of saving them. On the Plate 7-1 plan, not only the shoreline poplars are to be removed but an inland row of shade trees are to be removed as well. 1

The writers of this DEIS could have consulted the design engineers and published the rationale for not being able to mitigate this extensive tree removal. To have done so would have gone a long way toward public confidence in the integrity of SPU's process.

3.3.1.2 states: "Regardless of the option, (construction of the storage tank would require removal of the existing shoreline trees..) The shoreline . . . . could be planted with lawn and upland native landscaping."

No thought is given to an alternative to replant poplars at the shoreline. **The poplars have been there for so many years that they are the sole visual memory for contemporary park patrons and local residents.** 2

"Lawn and upland native landscaping" may very well be the more justifiable alternative, but the DEIS contains no discussion or justification for limiting the design approach to only one style of replanting the lake edge. This statement suggests that public opinion is now of no importance, with SPU being the arbiter on the manner of replanting the shoreline border zone. There is only the hint of a justification, and this is to be found in the

references section in which it is noted that the rows of Lombardy and White Poplars are not consistent with the Olmstead Plan. This is described in: NAOP (National Association for Olmsted Parks). 2011. Design Principles.

3 There is no information contained in this report that explains or evaluates the historical decision to plant the original rows of poplars, particularly since they were inconsistent with the Olmstead Plan. One must conclude there must have been a very strong reason at the time in history when they were planted. Today, without so much as a few words of rationale, someone at SPU has made the decision to replace the row of poplars with a very different style of landscaping. That is arbitrary..

****

Comment No. 2 -Repaving of Parking Lot 2

Chapter 3, Page 3-34 states:

Parking Lot 2: Table 3-5 shows the number of current and post-construction parking spaces. The parking lot currently has 62 parking spaces, including four accessible parking spaces.
• Alternative 1: Parking Lot 2, which would be used for staging, would be repaved and restriped to restore it to existing conditions, with no change to the number of parking spaces.

4 It appears that attention hasn't been paid to the current parking layout condition of Parking Lot 2. The parallel parking layout needs to be adjusted when the lot is resurfaced and re-striped at the conclusion of the project. The photographs I enclose below will illustrate that the line of parallel parking stall lengths is flawed and substandard. The stalls range from 18'-0" to 18'-6. This results in time consuming difficulties for motorists trying to maneuver into the stalls, including bumps and scratches .This also leads to an inefficient use of the available stalls.

I suggest two measures:

1. Eliminate the present curb bulbs. They are of limited value. Then redistribute this acquired space into the overall distance.
2. Delete two existing stalls overall, redistributing the space recovered to the line of remaining stalls.

This photo illustrates how one vehicle overlaps into the adjacent stall even though the nose of the vehicle is reasonably close to the front line of the stall. The result is the waste of a parking space behind. This is inefficient use of the overall space available. Put another way, the capacity is misstated. The working capacity is smaller than the stated capacity.

This photo illustrates how difficult it is to maneuver a standard size vehicle into an 18'-0" space. As you can see, the silver sedan is still partly into the stall after two laborious maneuvering attempts. The vehicles in front and back are centered in their stalls. There appears to be about 6" available at the front and about 12 or 15" at the rear.

<u>One additional consideration about the Lot 2 parking layout -</u>

The north-facing line of perpendicular parking stalls are laid in at 8'-6" on center. A survey of standards for various municipalities in the United States shows a concurrence on a dimension of 9 feet standard. Wikipedia's summary indicates an average of 9.1ft. "Parallel parking spaces are typically cited as being approximately 2.76 metres (9.1 ft) wide by 6.1 metres (20 ft) long."

The present 8'-6" interval at Seward Park is not as difficult and constricting as the problem at the parallel stalls, yet it squeezes vehicles just close enough to produce an unnecessary number of door impact dings in adjacent automobiles.

If the stall count could be reduced by just two spaces, the remainder of the stalls could be re-striped in at 9'-0". That would be a major improvement for the patrons of Seward Park.

Meyer, Betty

From: Robert Smith [bobakemi@comcast.net]
Sent: Tuesday, October 16, 2012 10:49 PM
To: Meyer, Betty; SPU_HCSO
Cc: Robertson, Kathy
Subject: Henderson 44 - Alternatives 1 & 2

Betty Meyer, SEPA Responsible Official
Seattle Public Utilities (SPU)
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

cc: Kathy Robertson, Project Manager
Henderson Basin 44 CSO

Thank you for bringing the EIS Public Hearing to the Seward Park Audubon Center on Oct 8, and for the professional manner in which it was presented.

You have an earlier email from me containing other comments on the Draft EIS, but now having attended this hearing, I would like to offer some additional commentary.

Sincerely,

Robert Smith
9835 Arrowsmith Ave So
Seattle, WA 98118

1. Regarding the proximity of the six or seven residences above the tennis courts & parking lot 1.

Although our family lives near but not adjacent to Seward Park, I can sympathize with these residents whose homes are quite close to parking lot 1 and the tennis courts. They will be required to experience 2 1/2 years of construction activity, noise and disruption before their lives can finally return to normal. I witnessed their testimony and thought they presented it in a civil and effective manner, especially considering the grievance
5 they discussed.

The Draft EIS did not speak to their key issue: the lateness in the public involvement calendar when the parking lot 1 alternative came into being. I myself have attended every meeting in the long process, and have to say they have a reasonable complaint.

I consider it a weakness in this DEIS that a more careful and thorough explanatory discussion was not included, both in regard to the timing of the introduction of the paired parking lot alternatives, and in differentiating between the two alternatives in the preference decision. It could have been included as an exhibit if brevity was
6 a necessity in Section 3.2. As a result, SPU's statement became subject to rebuttal during the testimony.

Now that you have heard testimony and feedback, it is reasonable to expect to articulate, as a part of the Final EIS, a thoughtful and respectful explanation to these people. I look forward to reading that.

2. Regarding potential damage to the nearby residences.

Here is what the DEIS stated in regard to geological impact.

Vibration and settlement, which have the potential to damage adjacent structures, could occur from placement of shoring for the excavation. Slope instability could occur due to excavation near existing slopes. Ground settlement also could potentially occur from groundwater de- watering during construction. The potential for observed or measured vibration (and any associated effects, such as settlement) depends on several factors, including the subsurface conditions and the distance from the source to the receiver. It is likely that the potential for vibration and effects on the nearby residences would be higher for Alternative 1 than for Alternative 2. Similarly, it is likely that the potential for vibration and effects on the nearby park facilities would be higher for Alternative 2 than for Alternative 1.
7 Shoring techniques would be used that do not produce significant vibration and the design would reduce the potential for impact to adjacent structures.

Frankly, I expected to witnesss some concern expressed by the homeowners about the potential for vibration and settlement damage to their houses. But I heard none. Perhaps the homeowners plan to utilize the law courts if damage does indeed occur during the construction phase. Have SPU's cost estimators included a contingency fund earmarked for legal claims when and if they take place?

3. Alternative 1 is superior to Alternative 2

I prefer Alternate 1 for a number of reasons:

1. Because of its larger capacity, the loss of parking lot 2 for 30 months would be a greater negative impact than to lose parking lot 1 for that same period of time.

2. Better location for park patrons - parking lot 2 conveniently feeds directly to the loop eastbound trailhead. It is significantly closer to the two south side picnic shelters. This is valuable logistically for groups carting supplies from their vehicles to the shelters for group picnics. It also is safer for bicyclists to approach the loop trail from the parking lot than to shunt over to the narrow paved path above and parallel to parking lot 2.

3. The childrens' playground will be farther away from the construction scene under Alternative 1.

4. As unattractive as Alternative 1 is to the adjacent residents, it still needs to be acknowledged
8 that what they face is for a limited period of time. It is a temporary impact.

5. I would like to note that none of the speakers spoke to or complained about the permanent loss of the Lombardy Poplars. One can conclude that they view this as a plus, an opportunity to improve their lake and territorial view.

6. Conversely, it would be a more distressing loss to destroy the majestic row of White Poplars at parking lot 2. These mature poplars present a frame by frame view of Mt. Rainier as one proceeds along the paths parallel to the parking lot. The poplars have been providing this glorious view to visitors for generations; they represent a landmark vision of Seward Park for the people of Seattle and have done so for as long as people can remember. That their original planting didn't coincide with the Olmstead Plan doesn't matter to people who have known these trees for a lifetime. These White Poplars may have mortality working against them, but my research indicates they still promise another twenty years of pleasure to park patrons. It would be criminal to take them down.

Conclusion: The White Poplars are more spectacular, more elegant and more valuable than the Lombardy Poplars. <u>The selection of Alternative 1 is the best decision.</u>

Response to Smith R Comment 1

Either alternative would require the adjacent stand of Poplar trees along the lakeshore to be removed. Although not directly in conflict with the storage facility, the Poplars would be in conflict with the shoring system used to hold open the excavated area. For either alternative, disturbed upland areas will be enhanced with restoration planting, including trees, in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting. Restoration planting will be consistent with the Seward Park Vegetation Management Plan.

Response to Smith R Comment 2

In order to maintain the existing shoreline edge and minimize disturbance of the existing western slope, limited space is available for large deciduous or evergreen trees adjacent to the shoreline. The size of the tank and shoring required for its construction also limit the amount of soil volume available for large evergreen or deciduous trees. Restoration planting will be consistent with the Seward Park Vegetation Management Plan.

Response to Smith R Comment 3

The poplar trees were likely planted when the tennis courts were constructed in 1932-1935. The poplar trees adjacent to the tennis courts may have been planted to provide shade for players. The poplars were planted during the era of Park Department Head Gardener Jacob Umlauf who was known to plant non-native trees in Seward Park. The proposed planting plan will align more closely to Olmsted's original vision and will be consistent with the Seward Park Vegetation Management Plan.

Response to Smith R Comment 4

Thank you for the information and pictures. The main point in the EIS regarding the number of parking spaces is that whichever parking lot has the CSO tank underneath it, that parking lot will require two spaces designated for City vehicles, thus reducing the number of public spaces. Aside from this City-vehicle requirement, adding an ADA space in Parking Lot 1, and the resulting decrease in regular public spaces, the EIS assumes no other changes to the number of spaces. However, during the design phase, Seattle Parks could decide to make additional changes to the post-construction configuration of the parking lots. The information you provided will be helpful for that process.

Response to Smith R Comment 5

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public involvement process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44.

In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot.

By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings.

The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Smith R Comment 6

Comment Noted. The EIS has been revised to include an explanation of alternatives analysis and the public process that SPU has carried out and will carry out to site the underground storage tank (Section 1.3). The EIS also has been revised to clarify how SPU arrived at its preferred alternative (Section 1.3) and to acknowledge that siting is a significant area of controversy (Section 1.4).

Response to Smith R Comment 7

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington

Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Smith R Comment 8

Thank you for your comments.

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Meyer, Betty

From: dsparler@aol.com
Sent: Tuesday, October 16, 2012 7:03 AM
To: Meyer, Betty
Cc: Harrell, Bruce
Subject: Comment on Henderson Basin 44 / Seward Park CSO

5920 Seward Park Avenue South
15 October 2012

Betty Meyer
Seattle Public Utilities
PO Box 34018
Seattle, WA 98124-4018

Re: Comment on DEIS for proposed Henderson Basin 44 CSO Reduction Project

Dear Ms. Meyer,

1 As a 21-year resident of the Seward Park neighborhood, I am writing you to urge that SPU reject the "Tennis Court Alternative" for this project. If the CSO tank must be located within the boundaries of Seward Park, the "Parking Lot Alternative," although it will still be highly disruptive, will be far less damaging to the quality of life of those of us who live near the park entrance. My house, which I share with my partner, Jeff Schouten, sits immediately above the tennis court parking lot.

2 I must state that I am bewildered and frustrated at the confusing signals sent by SPU as well as by the lack of transparency in communicating the evolution of planning in this process. As a case in point, your SPU web page on the project, which I accessed this morning, is still sending mixed messages. Near the top of the page is a link for the DEIS issued last month, with the Tennis Court Alternative indicated as Alternative 1, (preferred). However, when one scrolls down a bit and clicks on the Community Guide to the Project (the only such guide available so far as I can see), one gets a document that seems to have been issued in Spring of 2011, listing the Parking Lot as Alternative 1 and the Tennis Court as Alternative 2.

3 Having now perused the DEIS, I am, quite frankly, flabbergasted that SPU has given so little concern to the adverse impact of the Tennis Court Alternative on those of us who live in the immediate vicinity. Excessive

4 a-e noise[a], potential property-damaging vibrations[b], dust[c], noxious gases[d], disruptions or breaks in our sewer lines[e] are some of the likely negative outcomes of this alternative for our neighbors and us.

5 As to the DEIS assertion that the Tennis Court Alternative would be less disruptive to park visitors, please keep in mind that Seward Park consists of 300 acres of space, and that a contiguous park strip along Lake Washington Boulevard runs north of Seward Park for more than three miles. Thusly considered, park visitors have nearly unlimited alternatives to enjoy public green space, while we residents of houses adjacent to the park have no such options. The thought of being trapped in our homes during 2½ years of construction-related hell is dismal.

6 A side by side comparison of the "Summary of Potential Impacts" in Table 1-1 shows no evidence of the superiority of the Tennis Court Alternative over the Parking Lot Alternative. In fact, SPU's "preferred" Tennis Court site actually disturbs more upland habitat, closes the tennis courts for a longer period, and requires the removal of more trees. Regarding the assertion that bald eagles might be disturbed more by the Parking Lot

site, I can state with 21 years of empirical observation that bald eagles frequently alight in the snag-top firs on the park slope between our houses and the tennis court.

Simple justice, not to mention common sense, dictates that SPU reconsider its preferred alternative for this project, and reject the Tennis Court Alternative due to its potentially devastating impact on neighbors of Seward Park.

Sincerely,

Daniel Sparler

5920 Seward Park Ave. S.
Seattle, WA 98118
dsparler@aol.com
206-760-1973

Response to Sparler Comment 1

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have noted, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Sparler Comment 2

The alternative number designations were never intended to suggest a preference. To avoid confusion, the EIS has been revised so that the alternatives are not numbered. The alternatives are instead referred to as the "No Action Alternative," the "Tennis Courts Alternative," and the "Parking Lot Alternative."

Response to Sparler Comment 3

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have noted, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Sparler Comment 4a

As described in Section 13.2.1.1, park users and nearby residents likely will notice an increase in noise levels during construction, however the construction noise is expected to comply with the maximum allowable noise limits. The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Sparler Comment 4b

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use

construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Sparler Comment 4c

The Puget Sound Clean Air Agency (PSCAA) governs activities affecting air quality in King, Snohomish, Pierce, and Kitsap Counties; and thus has jurisdiction over the project area. As required by the PSCAA regulations, emissions will be controlled by using reasonably available control technologies (PSCAA, 2008) and City of Seattle construction practices.

Fugitive dust impacts associated with construction of the proposed project are not anticipated to be significant. Construction contractors will be required to comply with regulatory requirements and implement appropriate dust control measures, as necessary. Measures to minimize fugitive dust emissions from construction project will include:

- Spraying exposed soil and storage areas with water during dry periods.
- Covering exposed earthen stockpiles and loads of excavated material being transported from the site.

Vehicular emissions associated with construction of the project are anticipated to be short-term in nature. Measures to minimize vehicular emissions will include:

- Requiring contractors to use best available control technologies.

- Proper vehicle maintenance.
- Minimizing vehicle and equipment idling.

Response to Sparler Comment 4d

The existing CSO Storage Facility 8 (in Seward Park) does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

Response to Sparler Comment 4e

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

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drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Sparler Comment 5

Thank you for your comment. We acknowledge your concern about potential impacts to nearby residents.

The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As you have noted, the Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Sparler Comment 6

Comment noted. The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Meyer, Betty

From: Talbert, Paul [ptalbert@fhcrc.org]
Sent: Wednesday, October 17, 2012 1:07 AM
To: Meyer, Betty
Subject: Comments on draft EIS for Henderson Basin 44
Attachments: EIS comments.docx

Dear Ms. Meyer:

Please accept these comments on the draft EIS for the Henderson Basin 44 CSO project. These comments repeat and expand on comments I gave on October 8 at the public meeting on this topic, and could replace the earlier comments (which contain an embarrassing math error). I have put my comments below and also attached them as a word 2010 (docx) document.

Thank you for your attention to this matter.

Paul Talbert
4601 S Brandon St
Seattle, WA 98118-2355
ptalbert@fhcrc.org

October 16, 2012

EIS comments

1 1. I want to thank SPU for all the work they have put into the public meetings, EIS, and other reports relevant to this large and intrusive project. I also want to thank SPU for being responsive to the public input that has been received. As the project has evolved, SPU has been continually responsive to public input and has worked hard to keep the public informed. Charges that neighbors were "blindsided" about options that have been on the table for over a year are ridiculous.

2 2. Alternatives 1 and 2 for the most part have similar impacts. As one of the people who originally suggested Alternative 1, I can say that the reasons that the tennis courts were suggested had to do with the belief that the south parking lot might remain open and that it would be good to get new tennis courts out of this project. However, as presently conceived, both alternatives close both parking lots, and both would produce new tennis courts, so the alternatives are equivalent in this regard. The reasons listed for preferring alternative 1, primarily less impact on park users, are good reasons. However, in looking at the long-term impacts there are some differences in the impact on the park itself. While I am very hesitant to recommend putting the construction site near the playground, this is a temporary inconvenience, whereas the loss of the trees that will be removed will have a much longer recovery time to the extent that they recover at all, since the tank area will remain tree-free. Alternative 1 would remove 43 trees including 12 natives. Alternative 2 would remove 'only' 36 trees, none of them native. The loss of 7 additional trees under Alternative 1 is a significant impact, and therefore Alternative 2 is preferable.

3 3. Under Alternative 1, the EIS mentions the possibility of making a temporary road across the grassy area south of the entrance circle to ease access to the south parking lot (#2) while the southwest parking lot (#1) and tennis courts are still closed. I am wary of this possibility, which may damage the roots of the surrounding trees.

4 4. In Table 3-3 and Figure 3-6, the EIS raises the possibility of off-site staging. It is unclear how practical this is, but the temporary impact to the park would be reduced if off-site staging permitted either the south or southwest parking lot (Lots 1 &2) to stay open, since these are very heavily used. Parking lot #3 is also very heavily used and would only be preferable to 1 or 2 if it has fewer parking spaces. The upper parking lots are less heavily used and mostly have fewer spaces. Staging near Whitworth School would have many of the same problems of impacting kids and families as do Alternatives #1 and #2. If off-site staging occurs, resurfacing the tennis courts might not be required if Alternative #2 is chosen, but it would still be a great idea to help mitigate the impact of this project on recreation.

5 5. In considering the impacts of construction on fish, and in planning lakeshore restoration, it should be noted that redside shiners spawn each year, usually in April or early May, on the shores of Andrews Bay. It is possible that some use the south shore of the park as well. Though not a species of concern, they are a significant part of the park's wildlife.

6 6. The test holes in the geological report excavated shells, and fossils are known to occur in the Blakeley Formation. There should be a geologist on hand when bedrock excavation begins to evaluate the presence of fossils and whether they are of scientific value. Even if they are not of scientific value, they may be of educational value for the Audubon Center, the Friends of Seward Park, neighboring schools, or others. Some practical means of looking for and putting to use any fossils that are found should be devised in a manner that does not burden construction unnecessarily.

7 7. The EIS refers to the Seward Park Vegetation Management Plan, but does not list it in the references. It does not refer at all to the Lake Washington Boulevard Vegetation Management Plan, which should be consulted prior to planning the UPARR replacement area. The latter plan was somewhat controversial, and it is important to be aware of the compromises that were built into the plan.

8 8. The EIS discusses new ADA parking sites. It would be helpful if planners consulted the Seward Park Comprehensive Trail Plan for at least one recommendation for anADA site location on the upper loop to access a future ADA compliant trail. ADA access at the amphitheater and picnic shelter #5 should also be considered.
http://www.scribd.com/doc/66467524/Seward-Park-Trail-Plan

9 9. With increased traffic on the upper loop, crosswalks could be added for safety: between picnic shelter #3 and the joint entry to the Bald Eagle and Lost Lake Trails; between picnic shelter #2 and the amphitheater; between the amphitheater and the Bald Eagle/Sqebeqsed Trails; and at the bottom of the upper loop road to the Clay Studio area.

10 10. The EIS mentions that 3700 cubic yards of fill will be imported. Why not just use some of the excavated dirt?

11 11. In considering transporting heavy equipment and fill over Genessee or Orcas, It should be considered that Genessee is wider and is lined by fewer houses.

12 12. There may be increased bike traffic in the park. If so, few more bike racks would be handy.

13 13. Although somewhat unrelated to the EIS, it would be nice to clarify to the public if Seward Park is being recommended for Historic District status or is merely judged to be eligible, and what the practical effects of such a designation would be for the park.

14 14. On page A-12, it is stated that the Friends of Seward Park have been active "for half a decade". Actually the Friends have been active since 1999.

15 15. To the extent that the park closes down during Seafair, that would actually be a good time to do construction work in my view.

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Response to Talbert Comment 1

Thank you for your comment.

Response to Talbert Comment 2

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Talbert Comment 3

As described in Section 3.3.2, the decision on which area(s) to use for construction staging and contractor parking will be made by the contractor, working with SPU and Seattle Parks, and will be based on a number of factors. Impacts to trees surrounding the potential temporary public access driveway will be considered in the decision on staging and contractor parking locations.

Response to Talbert Comment 4

As described in Section 3.3.2, the decision on which area(s) to use for construction staging and contractor parking will be made by the contractor, working with SPU and Seattle Parks, and will be based on a number of factors. The information in Section 3.4 regarding the tennis courts being completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, assumes (per Section 3.4.2) that the tennis courts and Parking Lot 1 are used for construction staging and contractor parking for the Parking Lot Alternative. If the tennis courts are not utilized as such, re-building the tennis courts might not be necessary.

Response to Talbert Comment 5

This information was added to Section 7.2. Redside shiner are also listed in Table D-4 of Appendix D.

Response to Talbert Comment 6

Paleontology is not addressed under SEPA and there are no legal requirements to protect paleontological resources on the state level. The Blakeley Formation is quite large. It can be found at Seward Park, I-5 at Boeing Field, Bainbridge Island to Bremerton, etc. Fossil beds in general tend to be repetitive in their composition. The size of disturbance this project might make is probably about 1/1000 the size of the formation or smaller. If fossils were disturbed during excavation, it would not have a significant adverse impact.

Response to Talbert Comment 7

The Seward Park Vegetation Management Plan is listed under the author, International Forestry Consultants, in Section 18 References.

The Lake Washington Boulevard Management Plan was followed in developing the UPARR replacement area (Figure 3-9). An in-text citation has been added to the EIS and reference added to the list.

Response to Talbert Comment 8

Suggestion to follow the Seward Park Comprehensive Trail Plan is noted. SPU is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA requirements. Construction-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5 of the EIS, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either during the City Council proceedings that are required to address Initiative 42 and the City's Land Use Code or during negotiations with Seattle Parks that are part of the process to obtain a Revocable Use Permit. Any mitigation undertaken along the upper loop will be consistent with the Seward Park Comprehensive Trail Plan.

Response to Talbert Comment 9

Suggestion to add crosswalks in four specific locations is noted. SPU is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA requirements. Construction-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5 of the EIS, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either during the City Council proceedings that are required to address Initiative 42 and the City's Land Use Code or during negotiations with Seattle Parks that are part of the process to obtain a

Revocable Use Permit. Any mitigation undertaken along the upper loop will be consistent with the Seward Park Comprehensive Trail Plan.

Response to Talbert Comment 10

The site excavations will likely consist largely of Blakely Formation bedrock, as well as any soil overlying the bedrock. The soils overlying the bedrock at the site are generally fine-grained (silty or clayey), lacustrine (lake) deposits or re-worked fine-grained soils in the form of existing fills. These soils are generally unsuitable as engineered fill due to their compressibility, moisture-sensitivity, and other issues. The bedrock at the site is generally comprised of sandstone and mudstone. Using excavated bedrock as engineered fill would require extensive, costly, and noisy processing. While this is sometimes done for large earthworks or roadway projects, this project's scope and proximity to residences does not lend itself to on-site processing of rock material for fill. Therefore, the most cost-effective, least intrusive, and technically feasible alternative is to use imported soil for the required engineered backfill.

Response to Talbert Comment 11

The hauling and equipment transportation routes will be selected in partnership with SDOT. Regardless of the selected route, SPU will implement several actions to limit impacts including performing a pre-construction road assessment and restoring roads if they incur damage during construction, developing a traffic control plan, and only using equipment and trucks that meet SDOT's residential street weight requirements.

Response to Talbert Comment 12

Suggestion to add a few bicycle racks is noted. SPU is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA requirements. Construction-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5 of the EIS, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either during the City Council proceedings that are required to address Initiative 42 and the City's Land Use Code or during negotiations with Seattle Parks that are part of the process to obtain a Revocable Use Permit. Any mitigation undertaken along the upper loop will be consistent with the Seward Park Comprehensive Trail Plan.

Response to Talbert Comment 13

As part of the Cultural Resources analysis performed for this EIS, cultural resource experts (Historical Research Associates, Inc.) determined Seward Park is eligible for listing in the National Register of Historic Places (NRHP), the Washington Heritage Register (WHR), and the City of Seattle Landmarks Register. Seward Park is not being recommended for listing as part of this EIS. If such listing(s) were to occur through other efforts, they might, depending in part on the funding source or permitting requirements, require the City of Seattle to consider the effects of potential future projects on Seward Park.

Response to Talbert Comment 14

The text in the appendix has been changed to clarify that the Friends of Seward Park has been active since 1999.

Response to Talbert Comment 15

As described in Section 3.2, the construction schedule will be coordinated to minimize impacts to major events such as Seafair. Considerations related to Seafair will include safety closures of the park due to the Blue Angels schedule and traffic congestion in the area.

Whalen

Meyer, Betty

From: Maura Whalen [sppif@mac.com]
Sent: Tuesday, October 16, 2012 8:22 PM
To: Meyer, Betty
Subject: RE: Proposed CSO tank at Seward Park

To Whom It May Concern:

I am writing to express my concern about the proposal to build the 2.4M gallon CSO tank in Seward Park. I support the preferred alternative to place the tank under the tennis courts.

As a 13 year resident of Seward Park and as the Co-Chair of the volunteer group which led the Department of Neighborhood project to renovate (re-build!) Seward Park's playground, I have grave concerns about our beloved and well used play area being ripped up for the installation of the CSO tank. Construction will cause disruption wherever it is decided to be placed but my firm belief is that the tennis courts are a better bet for several reasons. For starters, the tennis courts are not nearly as well used as the play area is and they are in dire need
1 of renovation which could easily happen post the installation of the tank. Southeast Seattle has tremendous growth of diverse young families whose children need a place to play and interact with one another in a healthy way. Our play area provides that. At any given time, rain or shine myriad people of all ages can be seen enjoying the play area. It is without argument that the creation of Seward Park's play area has made an informal, outdoor living room drawing people from numerous neighborhoods throughout the city and beyond. To take this away would be a tragic error.

On behalf of the Seward Park Playground Improvement Foundation, please cast a loud vote for placing the tank under the tennis courts.

Sincerely,

Maura Whalen
5215 South Orcas Street
Seattle, WA 98118
206-281-8655

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Response to Whalen Comment 1

Thank you for your comment.

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CITY OF SEATTLE
SEATTLE PUBLIC UTILITIES
SEWARD PARK COMBINED SEWER OVERFLOW (CSO)
REDUCTION PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING

VERBATIM TRANSCRIPT OF PROCEEDINGS

Monday, October 8, 2012
6:05 p.m. to 7:10 p.m.

Held at the Auditorium of the
Seward Park Environmental & Audubon Center
5902 Lake Washington Boulevard South
Seattle, Washington

REPORTED BY: **Jeanne M. Gersten, RMR, CSR**
Registered Merit Reporter
Washington CCR No. 2711
MARLIS J. DeJONGH & ASSOCIATES
(206) 583-8711
Contact@MarlisDeJongh.com

1 **A P P E A R A N C E S**

2 **FACILITATOR:** **ROBERT WHEELER, P.E.**
Triangle Associates, Inc.

3

4 **FOR CITY OF SEATTLE, SEATTLE PUBLIC UTILITIES:**

5 CHRISTINA FAINE, Communications and Outreach Manager
6 ANDREW LEE, CSO Program Manager
BETTY MEYER, SEPA Responsible Official
7 KATHY ROBERTSON, P.E., Senior Project Manager

8

9 **PUBLIC SPEAKERS:**

10 MARK EARLY
JACOB GREENBERG
11 DAN KINERK
ELIZABETH KINERK
12 BARB MAHER
JEANNIE O'BRIEN
13 ALLAN SMITH
PAUL TALBERT
14 RICHARD WENGER

15

16 * * * * *

17 **I N D E X**

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Concluding remarks by Mr. Wheeler 57 - 59

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22

23

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25

October 8, 2012, Seattle, Washington:

PROCEEDINGS: 6:05 p.m.

MR. WHEELER: Okay, everybody, I think we'll start off. My name is Bob Wheeler, and I'm with Triangle Associates. I'm here to help the City of Seattle with this official public hearing on Henderson Basin 44. That's just a number for the basin, CSO reduction project. And you'll hear just a little bit more about CSO, the combined sewer overflow. So you'll hear about that in a second.

Tonight is the official public hearing to hear about the Draft Environmental Impact Statement, mostly though to hear from all of you. And it's a more formal process. You've had a number of meetings in the past that the City has run about this particular basin. It's been more interactive, but it's part of an environmental -- Draft Environmental Impact Statement. It's a more formal type of process.

So the way that I want to run that as the facilitator for tonight is that we're asking you, everybody to sign in, to just, you know, let us know who you are so we have your information. Obviously we'll need to have that. And then if you want to speak, we want you to fill out one of these for a couple of reasons: One, so when I call on you then I can go ahead and make sure I

have you in order. Two, so our recorder over here will be able to get your name and your spelling and that type of thing to make sure that we record the information.

So we're going to be recording the whole meeting. These are pretty detailed notes, pretty much what everybody is saying. So what you say tonight is going into the official record and is all information that the City then considers as it's taking it from a Draft Environmental Impact Statement to a final Environmental Impact Statement. So that's the process.

Just a couple of ground rules. This looks like a great group. So again, it's a formal public hearing. We are going to have a quick short presentation from Andrew that he'll just give you a little bit of information on the context. Again, a lot of you have heard this information. If there's some just very quick clarifying questions at the end of his comments, we'll go to those, but we hope not to spend too much time there.

Then the major part of this session are your comments, and we're looking at around three minutes or so for each of you for any comments that you have. Again, we'll go in a certain order here. Stay to the point. Comment on the Henderson 44 CSO. We want your input and your comments.

We've decided to do the whole meeting. It will be

documented; so we're starting the meeting, and things are being documented, what I'm saying now. Please be respectful. We're here to listen. This is an important part of the Environmental Impact Statement process, so be respectful in your comments. Address your comments to the City, and I'll do introductions here in a second. They're mostly up here in the front. So we want your comments addressed to them.

Clearly state your name when you do speak; and instead of having you all come up front and center like some big public hearings, you can just speak from your seat if you feel comfortable standing up. If I'm not hearing you, I'll make sure that you do stand up so we can make sure we hear you.

We're only taking speakers that are signing up. There are also written comments, so if you don't want to speak you can have written comments; and there's a form in the back for that. And then only the recognized speaker is to speak at that point in time. So we're not looking for sort of side conversations or comments or applause or any of that sort of stuff. We're just running it as a formal meeting.

Again, your public comment can be either verbal or written tonight. I put this down here that the public comment period is open until October 17th, 2012, so

tonight is the formal meeting portion of this to hear your comments; but you have other venues which you'll hear about that you can provide comments.

So with that, let's just do a quick round of introductions. Again, I'm Bob Wheeler of Triangle Associates.

Betty, we'll start with you.

MS. MEYER: I'm Betty Meyer. I'm with Seattle Public Utilities. I'm what is called the responsible official, so my role to make sure that SPU evaluates and discloses any significant adverse environmental impacts of proposed projects before the department makes a decision about whether to move forward with the project.

MR. WHEELER: Andrew.

MR. LEE: My name is Andrew Lee. I'm the Combined Sewer Overflow Reduction Program Manager for the City.

MR. GREENBERG: I couldn't hear you.

MR. BOB SMITH: Who are you, Andrew?

MR. LEE: I'm sorry. I'm the Combined Sewer Overflow Reduction Program Manager for the City. So I'm responsible for the implementation of the combined sewer overflow reduction projects.

MR. BOB SMITH: And you're an engineer,

too, aren't you?

MR. LEE: I am.

MR. WHEELER: Okay. Kathy.

MS. ROBERTSON: And I'm Kathy Robertson. I'm the Project Manager for the Henderson CSO Basin 44 project for Seattle Public Utilities.

MR. WHEELER: And we'll just go through the audience. You can name your affiliation if you want or just your name is fine if you're a resident.

MR. ALEINIKOFF: Paul Aleinikoff, and I'm a resident on Lakeshore Drive South.

MR. WHEELER: Okay.

MS. ALEINIKOFF: I'm Beverly Aleinikoff, Lakeshore Drive.

MR. WHEELER: Thank you.

MR. WENGER: I'm Richard Wenger. I live right heard on Orcas.

MR. WHEELER: Okay.

There's a sign-in in the back. Just give your name now if you want to.

Okay. We'll go on. Go ahead.

MR. ALLAN SMITH: I'm Al Smith. I live on Orcas.

MR. WHEELER: Great.

MS. O'ROURKE: I'm Kelly O'Rourke. I'm

with HDR Engineering, and we helped SPU put together the draft EIS.

MR. WHEELER: Okay. In the back.

MS. FAINE: Christina Faine, Seattle Public Utilities, Communications and Outreach.

MS. GATTON: And I'm Gail Gatton. I'm the director of the Seward Park Audubon Center, which is where you are.

MR. WHEELER: Okay. Up here.

MR. BOB SMITH: I'm Bob Smith. I live in the community. And this is my wife, Tammy Smith. She, too, lives in the community.

MR. WHEELER: Great. Bruce.

MR. HARRELL: I'm Bruce Harrell. I serve on the Seattle City Council. I chair the public safety, civil rights and technology committees. I'm actually here -- I was trying to think of what capacity I'm here. I'm also a neighbor. I just live right around the corner.

So I don't want to do anything to jeopardize the process by virtue of participating. It will eventually come to the Council, so I want to make it clear on the record that certainly my presence here should not jeopardize any of that, that process; and if it does, I'd ask that you respectfully let me know so that I am not in any way tainting the process.

MR. WHEELER: Okay. Next.

MS. O'BRIEN: I'm Jeannie O'Brien, a lifelong resident of the Seward Park neighborhood, currently living in Seward Park just above Lakewood Marina above Lake Washington Boulevard. And I'm not in my official capacity, but I serve as president of the Lakewood/Seward Park Community Association.

MR. WHEELER: Great.

MR. KINERK: Hello. My name is Dan Kinerk. I'm a lifelong Seattle resident and a long-time Seward Park resident. We live on Seward Park Avenue South just above the tennis courts.

MR. WHEELER: Okay.

MS. KINERK: I'm Elizabeth Kinerk, and I also have been a long-time Seattle resident; and we live right here by the park.

MR. WHEELER: Okay.

MS. MAHER: I'm Barb Maher. I have lived right above the tennis courts for 17 years.

MR. WHEELER: Okay. And in back with the green and the bluish seater.

MS. RICHARDSON: Sheri Richardson, and I live over on 49th Avenue. I like to walk around Seward Park quite a bit.

MR. WHEELER: Thank you.

MS. SAMUELS: Jennifer Samuels. I'm with Councilmember Harrell's office.

(Court reporter interruption.)

MS. SAMUELS: Samuels. I'm with Councilmember Harrell's office.

MR. WHEELER: Great. Thank you. In the back.

MR. EVANSON: My name is Aaron Evanson. I'm a resident.

MR. WHEELER: Great. And do you want to introduce our two young, budding Seward Park residents?

MR. EVANSON: Sure. We've got Lucas and Jack Evanson here as well.

MR. WHEELER: Great. And then in the back.

MS. DAVIS: I'm Susan Davis, the executive director for the Rainier Chamber of Commerce, and I live in the area.

MR. WHEELER: Great. Okay. Thanks a lot. I appreciate that.

So again, this is a formal public hearing. We are here to hear -- The City is here to hear from you on official comments that you want to make. When we get to the comments we'll try to make them around three minutes each or so. For those of you that are going to speak -- and I have a list here -- if you decide that we're doing

some of our discussion -- or excuse me, as people are making their comments if you want to go back and sign up on one of these, and I'll get a hold of that copy and we'll include your discussion. And we might break protocol a little bit and go to our people that are speaking that have young kids here in case they need to head out earlier.

And you didn't have a chance to introduce yourself, so if you would like to introduce yourself now.

MR. GREENBERG: Beg your pardon?

MR. WHEELER: Would you like to introduce yourself, please?

MR. GREENBERG: Yes. My name is Jack Greenberg, and I live at 6020 Lakeshore Drive South. The tennis courts are directly below me, below the cliff.

MR. WHEELER: Great. Thank you. Okay.

And if anybody has a hard time hearing, just raise your hand if we're not speaking loudly enough. Okay?

So Andrew, do you want to go ahead and just give a little bit of context on the project?

MR. LEE: Okay. Again, my name is Andrew Lee. I'm the Combined Sewer Overflow Reduction Program Manager for SPU.

Today -- Tonight is the hearing for the project Draft Environmental Impact Statement. I'm not going to

1 describe in detail the contents of that EIS, but I am
2 going to go through about seven different questions and
3 try to answer those questions just to provide context for
4 this meeting.
5 The first question I'm going to answer is what is
6 the proposed project. I'm going to talk about the
7 alternatives that we evaluated in the draft EIS. Then I'm
8 going to answer the question how did we arrive at those
9 alternatives, what process did we follow to get there.
10 I'm going to talk about what is the purpose of the
11 environmental review process that we're following, the
12 SEPA environmental review process. I'm going to answer
13 the question what are the steps in the SEPA process. Then
14 I will answer how will the final siting decision be made.
15 And then lastly what will the other opportunities to
16 provide public be before this project is approved. So
17 those are the seven questions I'll go through.
18 So to start off with, what is the proposed project?
19 The purpose of this project -- we call it the Basin 44 or
20 North Henderson CSO reduction project -- is to reduce raw
21 sewage discharges into Lake Washington near Seward Park to
22 no more than one per year. The outfall for this
23 particular location is just south of us. It extends about
24 300 to 400 feet off the shore. Between the last ten
25 years, roughly, the site has averaged between ten to 20

overflows per year. It's actually one of the most frequently discharging overflows into Lake Washington.

And our objective is to reduce those discharges down to no more than once per year, so only on the biggest storm of the year would it overflow; and in order to meet this objective we need to build approximately 2.4 million gallons of storage, underground storage to store the combined sewage and stormwater so that it doesn't discharge into the water body during a heavy rain event.

And for context, 2.4 million gallons is approximately four Olympic size swimming pools, a little bit less than that.

So now the second question is what are the alternatives that we've evaluated in the draft EIS. I'm going to --

MS. MEYER: Am I in your way?

MR. LEE: No, it's okay. You're fine.

-- refer to these two maps. We had two alternatives that we looked at in the draft EIS, and this is the first one. It's storage underneath the existing -- the existing parking lot that's on the south end of Seward Park. The other alternative -- And the storage facility is demarked by this kind of yellow highlighted area.

The other one is storage underneath the parking lot that's on the corner and then also the tennis courts, also

extending a little bit further south there. So both are 2.4 million gallons. The final configuration of both facilities would be to have them entirely underground, paved over with either a parking lot or a combination of the parking lot and the tennis court.

There would be some above-ground facilities, but pretty minimal facilities, which would include, as you can see on these, it says above ground electrical, HVAC and water components. So things like an electrical cabinet.

Thanks for pointing that out, Bob.

And above-ground electrical cabinets, some exhaust for air as well as potentially some -- some what's called a reverse pressure backflow preventer, so things that would be necessary for getting water in and out of the site.

We also evaluated in the draft EIS the no-action alternative, and so that is typically required as a baseline to compare the impacts of the alternatives against the no-action alternative.

No. 5: So the next question, how did SPU arrive at these alternatives? So we began this process roughly in the 2009-2010 time frame, and it all began with the collection of technical information. So before we began to start as well as before we started to go out to the public we started with collecting a lot of flow-monitoring

data and rainfall data to figure out how big is the problem. And through that collection of information that's how we came to the conclusion that it's about 2.4 million gallons of storage that is required.

Starting in the fall of 2010 we began our public process, and so we initially had several meetings in the fall of 2010 through the winter of 2010-2011 where we discussed the various options -- and I speak of high-level options about how do we reduce combined sewer overflows from this area.

So we looked at options such as storage, of which these are two examples. We also looked at options such as separating the stormwater pipes from the sewer pipes going into people's homes, disconnecting roof leaders, that type of sewage.

And we also looked at alternatives that included there are two basins in the north part of this area, and one is the area draining to Seward Park. The other one is actually an area draining to Martha Washington Park, just a little bit south of us.

So we looked at alternatives of consolidating because we could potentially have two different storages at both facilities. We looked at options of consolidating those two storage facilities. One of the alternatives, for example, we looked at was a tunnel in between those

two parks where we would keep the storage underneath, in essence, underneath homes along the waterfront and along a conveyance tunnel.

We also looked at creating a pump station where we would convey the flows down to Martha Washington Park and build a large approximately 2.6-million gallon storage in Martha Washington Park.

Through that process, which again lasted about six months or so, through the public process it became clear that one of the preferred alternatives of that sort of high-level look was having storage -- two storage facilities, one in the vicinity of Seward Park, and another one in the Martha Washington Park area.

In the spring of 2011 we therefore separated those two basins, and we looked at what are the alternatives for storing in the Seward Park area, and what are the alternatives of storing in the Martha Washington Park area. Obviously this public hearing is specifically concerning the Seward Park storage, not the Martha Washington Park storage.

We looked at three high-level kind of alternatives for where to store it, and those three alternatives included storing it in the park, so somewhere within Seward Park. We looked at storing it underneath the right-of-way, underneath the road, and in this case that

being Lake Washington Boulevard. And then the third alternative we looked at was looking at storing it along private property. Generally speaking, private property to the south of Seward Park.

Through that process it became clear that the Lake Washington Boulevard option and the private property option were not preferred alternatives, and so we focused our energies on the Seward Park alternatives; and so of which in roughly the summer of 2011 we came out with a scoping notice for the EIS, and that's where we identified two alternatives within Seward Park. One of those alternatives being the one underneath the parking lot, and the other one being the one underneath the tennis courts.

In the spring of 2012, so just about roughly six months ago, was when we announced our department, SPU, sort of recommended alternative, and that being the tennis courts location. So that's kind of the history of how we got to these alternatives.

So No. 6. Sorry, the next question is what is the purpose of the SEPA process? The purpose -- So SEPA is an acronym for State Environmental Policy Act, and it's essentially making sure that we look at the range of environmental impacts. And specifically the purpose of the State Environmental Policy Act process is to identify and evaluate the potential adverse environmental impacts

of a proposed project so that departments and elected officials can take these impacts into consideration when deciding whether to approve the project and whether to condition or issue permits.

The SEPA process, or this environmental process, review process, includes analysis of the adverse impacts on both the natural environment. So, for example, on earth, water, air, plants and animals, and it also includes an evaluation of impacts on the built environment. So that includes, for example, recreation, cultural, historic resources and transportation.

If the proposed project is likely to have significant short-term or long-term adverse impacts, then an EIS is required. In this case SPU made the decision to go forward with an EIS.

MR. GREENBERG: Could you say that again, that last sentence?

MR. LEE: Yes. So if a proposed project is likely to have significant short- or long-term adverse environmental impacts, effects, an EIS is required. Did that -- Okay.

The steps in the SEPA process, typically the step, the first step in the preparation of an EIS begins with the scoping process whereby we establish what is the scope of the EIS; and we typically narrow it down to focus on

the reasonable alternatives and the elements with likely significant adverse environmental impacts. We began that scoping process on May 26th of 2011 and continued through June 16th, 2011, and we did have a public scoping meeting on June 7th, 2011, after which a Draft Environmental Impact Statement is prepared, and it's issued for public comment. And so we prepared it, and we issued it on September 17th, so just a little bit less than a month ago.

We did publish the notification of this in several publications. For example, the Daily Journal of Commerce, Seattle Times. We also mailed out several mailings to residents within the basin, about 2,000 properties. We mailed out notification also to different agencies and also to our email listserv for the project.

Tonight is the public hearing, and it's part of the public comment process. So tonight whatever you present in terms of verbal comments will be on the record as a public comment for this Environmental Impact Statement process. We're also obviously accepting written comments.

At the conclusion of the public comment process, which will be on October 17th, 2012, SPU will review and will be required to respond to all the comments, including revisions to the EIS, should we choose to make them, as appropriate, before issuing a final Environmental Impact

Statement that includes all the responses to the comments and includes all the comments as well.

The draft EIS, I'm assuming most of you have seen it, but it is available at our downtown location, which is the Seattle Municipal Tower, 700 Fifth Avenue on the 49th floor. It's also available in the Seattle Central Library downtown in the general reference section. I understand it is also available at the Columbia City Library. Online is probably the easiest way to access it. It's www.Seattle.Gov/CSO/NorthHenderson.

MR. TALBERT: There's a hard copy in the library upstairs.

MR. LEE: Oh, great. Yes. So there is a hard copy upstairs. And we also have a hard copy here as well, if you would like to take a look at it.

Written comments will be addressed to Betty Meyer, who is our SPU SEPA responsible official, at the address -- Most of you should have it. If you don't have it, feel free to ask us for that address.

If you have questions, general questions about the proposed project -- and I'm differentiating between general questions about the project versus SEPA comments -- you're always free to contact either Kathy Robertson or myself, and I'm happy to provide our contact information as well.

Okay. So the last question -- or sorry, the last two questions. No. 1: How will the final siting decision be made? So your EIS comments, obviously we mentioned that we do have a recommended alternative right now, and that's an SPU-recommended alternative. That will eventually go to the City Council, and I'll talk about that process in just a second.

The EIS and your comments helps inform. It did help to inform our recommended alternative, and so we considered the environmental impacts of recommending the tennis courts option. However, your comments are also very significant in terms of informing how we decide to go forward. So thank you very much for being here and providing your comments.

Let's see. Following this EIS process, like I mentioned, we will publish a final EIS. Then in roughly between 2013 and 2014 we will be required to go to the City Council, and the City Council actually has multiple sort of authorities over this project. No. 1, by virtue of the fact that the project will be in a park location, we are required to get City Council approval of constructing in a park. So whether it's in either of these locations, the City Council will be required to approve that. And that's linked to an initiative. That's called Initiative 42.

In addition, the City Council will be required to pass what is called a type five land use decision, which is related to a Department of Planning and Development permitting process, and so the Council will have to approve that as well.

Most likely in the 2013-2014 timeline both the decisions will go to the council at the same time, and so that's when the council subcommittee and then eventually the council full committee will be required to hear it and, if they so choose, to approve it. During that time is when they will also consider the SEPA comments that have been received.

I don't want to lose sight of the fact that regardless during the design process we will also have a public involvement process. So whichever alternative we continue forward with the design process, we will be looking to get public feedback on that to make sure that the final design is integrated well into the neighborhood as well into the park. So that concludes my presentation.

MR. WHEELER: Great. So what I want to do is just clarifying questions. Okay? It's not a discussion or dialogue at this point. If there's something that you didn't understand in terms of what Andrew said.

So your hand was up first. We're just going to take

a few minutes on this.

MR. BOB SMITH: Please clarify how, in what form we'll be able to see the responses to the comments that we put in.

MR. LEE: Yes.

MR. BOB SMITH: Where will we find those responses?

MR. LEE: So the final EIS that we publish, which we will make available to all of you, most likely through the Web site as well as other means, will include -- I believe Betty typically in like the -- I assume an appendix or sort of -- at the end of the EIS it includes every single comment that was recorded.

MS. MEYER: Or a summary. If we get a lot of people commenting on the same thing, we also can summarize.

MR. BOB SMITH: I understand.

MS. MEYER: As part of the final EIS it will include comments and responses to the comments.

MR. BOB SMITH: Thank you.

MS. MEYER: So that's where you'll see them.

MR. WHEELER: Any other clarifying questions that anybody has just about what was spoken here?

Yes.

MR. ALEINIKOFF: The Seattle City Council will be the final and deciding answer to the project, whether it goes here to No. 1 or No. 2?

MR. LEE: That's correct. They're required to approve the project. Yes.

MR. ALEINIKOFF: Okay.

MR. LEE: That's the deciding decision.

MR. WHEELER: Any other clarifying questions?

MR. GREENBERG: Yeah. I'm not sure I understand what the alternatives are here. I understand what you're proposing, but forgive me, I'm ignorant on this subject.

Do you have any pictures or plans as to what the alternatives were or are?

MR. LEE: Sir, this is probably the best picture of the two alternatives.

MR. GREENBERG: Those two are the alternatives --

MR. LEE: That's correct.

MR. GREENBERG: -- for what you're proposing?

MR. LEE: That's correct. Yes, and so --

MR. GREENBERG: And where is a map that

size showing what you are proposing?

MS. O'BRIEN: Oh, I understand his question.

MR. LEE: Okay.

MS. O'BRIEN: He's looking at it as if you have a solution, and then there's two alternatives, instead of looking at it as these are the two alternatives that we're discussing.

MR. LEE: Okay. So in the end we will only have to build one facility, and so that facility is a 2.4 million gallon underground storage tank. So basically a big box underneath the ground that holds the stormwater and sewage.

We have two locations where we can build it, and it's an either/or. So we won't build two facilities. We will build one facility in the end, and one of the locations where that facility could go is right here underneath the tennis courts and underneath the parking lot that's here.

The other location where it could go is underneath this parking lot here. So in the end we'll have to -- our decision that we face, are faced with, is which of these locations will we build in. Did that --

MR. GREENBERG: That's the only alternative you have?

MR. LEE: These are the two alternatives, yes. So it's two options or two alternatives.

MR. GREENBERG: But that's the one you're proposing?

MR. LEE: This is the one that we're recommending, that's correct.

MR. GREENBERG: Right. And you only had one other alternative? That's all you had?

MR. LEE: So like I mentioned when I was walking through it earlier on, we started off with a wide range of alternatives, and then through almost a two-year process we narrowed it down; and these are the two final alternatives that we ended up with.

So earlier on in the process we did have many more alternatives, but we did narrow it down to these two. So these are the final two.

MR. WHEELER: So where we're going to go is to comment; and so if you want to comment on that, that's fine. That's what we're here for today is to hear what your comments are.

Okay. Any other clarifying questions from anybody?

MR. ALEINIKOFF: Can I just make a clarification? Sir, are you Mr. Greenberg?

MR. GREENBERG: Yes.

MR. ALEINIKOFF: Well, we on Lakeshore

Drive South got together --

MR. GREENBERG: Pardon?

MR. ALEINIKOFF: We on Lakeshore Drive South got together to try and fight the issue --

MR. GREENBERG: Yes.

MR. ALEINIKOFF: -- of the tank going on our property.

MR. GREENBERG: Yes.

MR. ALEINIKOFF: We're wondering where you were.

MR. GREENBERG: Well, I apologize for that. As a matter of fact, I shouldn't even be here tonight because this is the beginning of a very important holiday for the Jewish people.

MR. ALEINIKOFF: Yes, I know that, too.

MR. GREENBERG: There's a lot of people in Seward Park who are Jewish, and I don't want anybody here telling anybody that I'm here.

MR. ALEINIKOFF: Okay. That's our secret, but --

This one right here will impact your home and the fact that if you ever want to sell it, --

MR. GREENBERG: You had better believe it.

MR. ALEINIKOFF: Okay.

MR. WHEELER: So I want to bring it back

to -- Because again, this is a very formal process. So I think you got a clarification.

So are there any other clarifications that anybody has?

MR. GREENBERG: Well, I would -- Again, forgive my ignorance here. I'd like to know why you didn't accept that one, which doesn't impact apparently on any private property, whereas the one you're proposing does.

MR. WHEELER: So I need to jump in tonight. There's a lot of other meetings that ended up happening, and that was part of the discussion in terms of how they kind of got to this, and then they had the scoping on this. And the purpose of tonight is not so much to talk about the rationale or the reason why. It's to hear from all of you on your comments on this.

Now, you could make a comment related to the fact that you have some concerns, if you do, about why this is the recommended alternative.

MR. GREENBERG: Well, are you suggesting my question is out of order?

MR. WHEELER: I am, actually, yes. Because at this point we want to go to hear from all of you and hear your comments. Tonight is not about hearing and having dialogue and discussion on the rationale in terms

of why one was chosen or not. It's to hear from all of you on any specific comments that you have.

So with that I want to move along and see --

Any other clarifying questions?

MR. LEE: Bob, can I clarify something? Because Councilmember Harrell, you raised a question earlier on about in the summer of 2011 when we published the scoping publication, there was a nice handbook that kind of accompanied it. It had alternative No. 1 and alternative No. 2.

I just want to clarify that wasn't actually there to indicate a preference for alternative No. 1 versus alternative No. 2. At the time it was simply there to indicate that we had two alternatives, and we called one alternative No. 1, the other one alternative No. 2. So I just wanted to clarify that.

MR. WHEELER: Okay. Any other clarifying comments? Go ahead. And introduce yourself, too. I don't think you got to introduce yourself earlier.

FEMALE SPEAKER: Me?

MR. WHEELER: No, in the back. I'm sorry.

MS. EASTBERG: I'm Cheryl Eastberg. I'm representing Seattle Parks and Recreation. I'm listening to the public comment. There seems to -- I just wondered if any of -- either of the alternatives are on private

property. I've heard that mentioned.

MR. LEE: No. No, they're entirely within Seattle Parks. Seattle Parks own the land.

MR. WHEELER: Okay. It sounds like we could go to --

MR. GREENBERG: Is it out of order to get an answer to my question?

MR. WHEELER: Andrew, do you have any clarifying comment that you want to make?

MR. GREENBERG: I recognize that people are here, and I apologize for my ignorance, but I would like to know why that other alternative -- That other alternative is more desirable and has less impact upon private property than the one that you're proposing now. I think it's such a fair question.

MR. BOB SMITH: The answer is in the impact statement.

MR. WHEELER: So it's in the impact statement; but if Andrew wants to just do any clarifying comments on that for you, we'll do that.

MR. LEE: Yes. You know, Jake, so at a very high level the impacts that we looked at were generally speaking recreational impacts, as well as, you know, things like noise impacts, air impacts, so on and so forth. For the most part actually between the two

alternatives things like air impacts or ground impacts were pretty much identical, so there wasn't a significant difference.

MR. GREENBERG: Wait. I'm sorry. Air impact?

MR. LEE: Yes. So I'm talking about, you know, I mentioned a bunch of the elements for environmental impacts, things like impacts on water resources, impacts on air, impacts on ground, et cetera. They're fairly similar in terms of the nature of those impacts.

Let me get to, I guess, the point that I wanted to get to, which is the areas that we're differentiating between the alternatives, one of the big ones was impacts on recreational resources. So within the recreational resources as we did the impacts, the impacts of this alternative in terms of short-term construction impacts, on the availability of parking and the availability -- just the overall impacts to the park I would say were considered to be greater. There is a greater use of this parking lot than this area here, and so that was one of the impacts.

There were also different impacts in terms of impacts on trees, so this set of trees being taken down versus this set of trees here. From an impact on the

vegetation standpoint I don't think it was viewed that either alternative was worse or better because they were simply different trees, and so that wasn't viewed as a difference.

From the standpoint of what you're identifying, which is another differentiator, the impact on these properties is obviously greater in terms of kind of the construction impact, being able to see it during the construction time period, and so that is something that was identified to be greater for this -- for this particular location.

So there was definitely varying impacts. There were also -- I would say with the discussion with Parks it was viewed that from a final operations and maintenance standpoint, meaning going out and maintaining the tank, this site would be more -- would be less impacting on operations and maintenance activities because its location is more tucked away within the park as opposed to being in this parking area.

It was also viewed as potentially an additional environmental -- or sorry, an additional amenity to the park that the tennis courts can get repaved in this area, and so that was viewed as an improvement, as opposed to this area where it would just simply be replacing the parking lot.

So those were some of the things that we considered. There is a much better summary than what I'm giving in the actual EIS, and I would love to show that to you after the -- after the actual meeting, so --

MR. WHEELER: So I'd like to move on to hearing from all of you at this point in time. And I want to respect the fact that you have some young ones that may or may not -- You have kids, and I don't know if you signed up to speak or not.

MR. EVANSON: I did not. You know, I really appreciate that --

MR. WHEELER: Okay.

MR. EVANSON: -- but we're -- We're in an audience mode right now.

MR. WHEELER: Great. Okay. Sounds good.

So again, I want to go through the ground rules for this. We're going to keep you to three minutes each. I have a list of folks that have wanted to speak. Stay to the point. Comment on this particular project and on the draft EIS. Be respectful in your comments. Address your comments to the City.

Clearly state your name when you stand up to speak, and only speakers that have signed up. So if you haven't signed up yet, see Christina in the back and make sure you sign up. And then I'm going to go based on the list

that's right here in terms of order, and only those who are speaking is who we want to hear from at that point in time and that the City wants to hear from. This isn't about, you know, sort of cheering folks on or anything. They're interested in hearing your comments and hearing from you so that those comments can be recognized and included in the public comment.

If you prefer not to give a verbal comment, you can give a written comment; and you also have until October 17th to give official comments.

So with that I'm going to start things off, and is it Barb -- And if I do mispronounce your name, I apologize. When you stand up, go ahead and feel free to correct my pronunciation.

MS. MAHER: It's Barb Maher.

MR. WHEELER: Barb Maher?

MS. MAHER: Barb Maher, yeah.

MR. WHEELER: Okay. And you have three minutes, and I will start you -- Are you ready?

MS. MAHER: No, I'm not ready yet. I just have -- Since we have so limited time, I just wanted to hand out a few visuals that I'm not able to display here.

MR. WHEELER: Okay.

MR. BOB SMITH: This is part of your three minutes.

MS. MAHER: Okay.

MR. WHEELER: Okay. I'm going to start you now. And actually, I would prefer for you to stand there and face towards these folks. You're speaking to these folks over here.

MS. MEYER: You know, if I might interrupt. You've handed something out, but I need a copy of it as the SEPA responsible official.

MS. MAHER: Oh, okay.

MS. MEYER: It's more important that I have it than the audience. I'm sorry. Thank you.

MR. WHEELER: Thank you. So you're speaking to the City folks.

MS. MAHER: Okay. But maybe I can stand here so I can see everybody.

MR. WHEELER: That's fine. I'm going to start you right now.

MS. MAHER: Okay. Hi, I'm Barb Maher. I've been living right on the park for 17 years, and I'm here because I think the tennis court alternative was announced in a last-minute manner, and it blindsided those of us that live above the tennis courts.

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And I think the real problem was when the scoping process started that after all those high-level Seward Park meetings when you were talking about

alternatives, the tennis court location in a total of, I think, six meetings was never mentioned, and other locations were indicated. Mind you, neighbors that live south on Lakeshore Drive, I didn't want them to take your property, so anyway --

So I'm just going to go through why we feel like we were blindsided. September 10th, North Henderson community briefing. The parking lot location was pictured.

October, 2010, Friends of Seward Park briefing, the parking lot location was pictured.

October, 2010, Friends of Olmsted Park briefing. The parking lot location was featured with three alternative locations also featured along Lake Washington Boulevard, in Seward Park meadow, and near the beach. None of those were the tennis court location.

November, 2010, North Henderson workshop No. 1. No mention of possible locations other than the park.

December, 2010, North Henderson workshop No. 2. Three locations were discussed: The parking lot location, Lake Washington Boulevard, and private property.

In January of 2011 they start to really hone in on what they're doing. That was a widely attended meeting, and I know a lot of my neighbors down at Martha Washington and people whose homes were in danger of being taken were

at that meeting, and they were trying to quantify the different alternatives; and they did something called a multi-objective decision analysis, the purpose of which -- and I'm just taking this off their Web site -- was to have clear communication and understanding of the options, and also to do exercises to bring stakeholders' values and policies into the alternative evaluation.

I'm a pretty big stakeholder. My house is a matter of feet away from this project, and that option was never out there. So once again, --

MR. WHEELER: You have 45 seconds left.

MS. MAHER: Okay. March of 2011, once again, it's not -- They don't mention the tennis court location, and on the timeline they mention that this is a short list of alternatives.

On the 27th of May an email went out to people that are on the email list. I sent an email to SPU asking for further clarification of how to give input, and I did not hear back for three weeks from SPU after the mail had gone out on the final day of commenting for scoping. So that, and among a lot of other things that my neighbors who live around the tennis court, like Jack, who I just mentioned this to this weekend, have no idea of what's going on.

MR. WHEELER: Okay. Thank you very much.

MS. MAHER: So anyway, --

MR. WHEELER: The written form, it is important if you're passing anything out that the SEPA official here does get that.

Okay. Next we have Richard Wenger.

MR. WENGER: Yes.

MR. WHEELER: Okay. And you can speak from your seat if you like, or you can stand up, however you want to do it.

MR. WENGER: Okay. I'll sit.

2 I'm not sure what the issue is with the tennis courts. I'm a serious tennis player, so I guess it's a self-serving deal, but I'd like to know that the tennis

3 courts would be rebuilt; and if they were, how would the maintenance on this construction facility be done with the existing courts on top?

4 And I'm not sure what the opposition to it is if it's rebuilt; but anyway, I'd like to be able to play in my community rather than driving to Mt. Baker or Green Lake.

MR. WHEELER: Okay.

MR. WENGER: And that's my only comment.

MR. WHEELER: Great. Thank you.

And again, we're not responding to your questions tonight. We're including that as input into the process. So thank you.

Next, Don Kinerk.

MS. KINERK: Dan.

MR. KINERK: Dan Kinerk.

MR. WHEELER: Dan. I'm sorry.

MR. KINERK: Good evening, neighbors. I'm Dan Kinerk, and as I mentioned when we were first introduced, I live along with my wife and children on Seward Park Avenue South just above the tennis courts and where alternative one is being recommended by SPU.

I also want to thank Councilman Harrell who came on short notice when I had contact with him last weekend and his staff for appearing here tonight. He, too, is a neighbor that is going to be affected by whatever choice is made.

5 With the assistance of my wife and her relying entirely on EIS documents that were used to support alternative two, which is the parking lot, she was able to rebut all of the six reasons that the EIS and SPU had put down for support of the location. I have provided a copy of them; and if anybody is interested in a copy of that, I'm happy to email it to you.

6 Just to give you an example of what is involved there, an example of what SPU said that would be benefiting the tennis courts over the parking lot was that there would be less vibrations felt by park users.

Specifically this particular structure would be less affected. Of course, in reaching that conclusion they ignore that there are 11 homes that are adjoining this particular location, two in the parking lot. There was not a single bit of consideration within that report with regards to how vibrations would affect those structures, and more importantly how it would affect the people that live within those structures for the next 2-1/2 years and forward.

7 In addition, the sewage lines for those residents have not been addressed as to whether they would be damaged and what responsibility, if any, SPU would take with regard to that.

8 The same analysis goes on with regards to noise levels both during this 2-1/2-year construction project. What the EIS documents indicate is that if you have a measure, that the noise levels for the parking lot, it would be at 64 dBA. If you do it at the tennis courts it would be at 74 dBA. That difference in just ten degrees of dBA is basically doubling up the noise levels. And all of you who live down here who know what goes on on the weekends down here in terms of noise can only begin to understand the length and the frequency and the loudness with which that will happen if, in fact, the tank, 2.4 million gallon holding tank is put in at the tennis

courts.

MR. WHEELER: About 30 seconds.

9 MR. KINERK: Thank you. The same analysis would go with it applies with regard to odors. We already have the venting at the northwest corner. It comes all south to all of the homeowners in the neighborhood there. With the installation of the new suggestion on the tennis courts, that will be significantly worse. It will affect the entire neighborhood, Lakeshore Boulevard, and not just Seward Park Avenue South.

10 I respectfully disagree with Mr. Andrew Lee when he said that this was properly vetted. This process has not been properly vetted, and it has not been property vetted pursuant to SEPA or NEPA requirements.

MR. WHEELER: Time --

MR. KINERK: Lastly -- I'm going to go just another minute. Thank you, Bob.

11 I just want to let everyone know that the history with regards to Seward Park is that it was the vision of the Olmsted Brothers. I can tell you right now the Olmsted Brothers would be rolling over in their graves to know that a 2.4 million gallon holding tank is being installed in this really iconic location of the park system. The issue is not whether they're going to do it -- I understand that -- but certainly there has to be

12 consideration given to this neighborhood and to allowing the people within this neighborhood to have a voice in how that particular project is implemented. Thank you.

MR. WHEELER: Okay. Thank you.

And Elizabeth Kinerk. Do you have a handout, or --

MS. KINERK: No, my husband has already handed that out, actually.

MR. WHEELER: Okay. Great. Thank you. And if you would face the City, I'd appreciate that. Thank you.

Okay. Ready?

13 MS. KINERK: Yes. My name is Elizabeth Kinerk. I live here along the park, and I want to reiterate with what my husband has said, and one point being I don't feel that this alternative of the tennis courts has been properly vetted. It was the surprise alternative presented at an open house, which only seven people showed up to on I believe it was June 7th of 2011. And that was the last opportunity anyone had to comment on it. So seven people commented on this alternative, and then it went to the draft EIS. So I have a bit of a problem with that.

14 In addition to that, with the tennis court locations they are planning to cut 43 trees. It doesn't matter to me, 43 trees are 43 trees, versus 26 on the other parking

lot.

Now, we are against a greenbelt, and one of the Olmsted visions was to block the homes from the park. Great! And most of us are blocked from the park. When you cut down 43 trees you're going to see a lot of the homes there along the ridge for a very long time because trees take forever to regrow. In addition, it opens up the homes to crime.

For example, when the big windstorm came through here what was it, three or four years ago -- maybe it was five. Time flies -- we lost 11 fir trees on the hill, and within a very, very short time, I think within three months the house No. 2 was broken into. And we had never had any crime since I've lived here and moved in in 1999.

So my feeling is when you do take down trees and you open up that end of the park, we're going to introduce crime further down into the homes along the ridge. And that area of the park is very difficult to see for our Seattle police because it is a narrow strip down there. So once you start developing that it's going to encourage people to use it more often, and again, crime increases.

I also have an issue there, too, because you can see where you're switching the UPAAR -- I'm not sure how you say that -- the ground protection in that area will be the hatches. How -- You can address this later. How do

you access those hatches? Will there be a road put in? So that would mean that the tennis court locations would not be replaced.

And in addition, if the parking lot alternative is selected, which is where I think this tank should go, versus not in the park at all, the tennis courts can open 18 months -- after 18 months to 30 months, which is earlier, and be usable rather than waiting the 2-1/2 to three years that it would take if a tank was put in the parking lot -- I mean the tennis court locations.

MR. WHEELER: Thank you.

Jeannie O'Brien. And I'll start you now.

MS. O'BRIEN: I'm Jeannie O'Brien. I want to thank Liz for calling this meeting to my attention.

I did indicate that I serve as president of the Lakewood/Seward Park Community Association. I did not get notice of this change in alternatives. That doesn't mean it wasn't sent. I don't check the mail every day.

But I think my particular issue that I will present is about notice. I do happen to be a lawyer. I know how the City provides notice, and I know that there is a certain perimeter that they select, in this case 2,000 homes; but as a resident of southeast Seattle all of my life, we are 80,000 residents strong. We are a people of color. We are a people of every ethnicity. We are a

1 people of every economic status.
2 We also happen to have more crime than any other
3 part of the city. We have the worst performing public
4 schools. And now we happen to be the proud title holder
5 of the most number of homicides this year.
6 So the one saving grace throughout my life has been
7 this park. I walk Lake Washington Boulevard every day. I
8 walk the park quite often. There will be three tanks that
9 impact my daily life all along Lake Washington Boulevard,
10 and now, since it seems to be a done deal, in Seward Park.
11 There is so much money being spent on this project
12 that people need to know how much money it's going to cost
13 us as taxpayers, how much sewage we're actually preventing
14 from going into the lake, and how or when that sewage is
15 going into the lake. I think 80,000 residents of
16 southeast Seattle need to know how their utility bills
17 will be affected to save that one percent of sewage that
18 might go into the lake when there might be a combined
19 sewer overflow situation because that is the time of the
20 year when people are not swimming and enjoying Lake
21 Washington. That is the time of the year when people are
22 inside, when it's raining.
23 In the summer when people are outside enjoying
24 Lake Washington we have high levels of fecal coliform that
25 I track regularly from the natural habitat -- the ducks,

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the geese, the eagles, the herons. All of them are already contributing to the wastewater that we have in Lake Washington. So we are spending so much money to protect against so little sewage during a time of year when Lake Washington is not used for swimming.

MR. WHEELER: About ten seconds.

20 MS. O'BRIEN: I am appalled that this beautiful park would be used for such a monstrosity, and it does seem like we're beyond the point of changing where it's going to be. If it is in the park, there's no way it should affect my neighbors and my tennis courts.

MR. WHEELER: Thank you.

So I have two more speakers, Allan Smith and Paul Talbert. And if somebody does want to speak and you're not signed up, please sign up in the back with Christina. There's a form to fill out. And then we will continue if there are further speakers.

So Allan Smith.

MR. ALLAN SMITH: Well, the first point I have is more in the nature of a question.

21 My current understanding is that the tennis courts regardless are going to be replaced because even if that is used as a staging area, it's going to get beat up. So with the tennis courts, they're going to be in a lot worse shape. So my understanding was either one or two, they

were going to get replaced; is that correct?

MR. WHEELER: We're actually not responding to any questions. We'll take that as a comment, though, about the questions you have.

MR. ALLAN SMITH: Well, but he's the one that said that, and that's not my understanding. So there's -- Anyway, --

MR. WHEELER: Okay.

MR. ALLAN SMITH: I have particularly two points. Well, three points. One is President Obama lost the debate. The fiscal cliff is coming up, and who knows with the tea party people getting in, this project just might disappear on its own. That's one thing. Who knows about what's coming up?

The other thing is -- and this is I wasn't completely even thinking about, but there's a possibility going forward with this project, its contribution to the CO2 in our air is actually going to be more detrimental ultimately to our environment than cleaning up the lake. I mean, I'm just pointing that out because it's sort of a death by a thousand cuts. We just say, "Well, this little bit is all right," but you just keep adding it up. And right now we're going through a drought that's just about ready to reach a new record.

My last point is because I live on Orcas, I'm just

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1 really perplexed by the language that they say there's no
2 significant adverse impacts to traffic. There's going to
3 be -- I imagine most of the dump trucks are going to have
4 trailers. They're going to be over Orcas or on Genesee or
5 on Rainier Avenue. They're going to be much bigger than
6 regular traffic. And so when you say less than one
7 percent, it's not by vehicle for sure because they're
8 going to be a lot bigger. There's going to be a heck of a
9 heck of a heck of a lot more weight in those things, and
10 they're going to pound our roads.

25

11 And if some of this stuff happens in a short period
12 of time over the winter, something like Orcas is -- The
13 city doesn't maintain Orcas or the streets to anything
14 like you could expect in Bellevue. Or I talked to a
15 friend of mine who is from Chapel Hill, North Carolina.
16 He says our streets are terrible. So you can't -- That's
17 the other thing.

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18 And I am a little bit concerned about my house in
19 this case because my house is on clay. The foundation
20 isn't that great, and my house does shake when the trucks
21 go by. So I can almost see liquefaction happening when
22 you get the constant pounding of trucks going by for a
23 short period of time, especially during the winter when
24 the city no way can keep track of the potholes that are
25 happening in our streets.

And the other thing I --

MR. WHEELER: You have about 30 seconds.

27 MR. ALLAN SMITH: The other thing I would just like to throw out, I really enjoy Seward Park. I know -- I know the Audubon Society. I don't know what their position on this particularly is, but this is really going to affect them. It's going to affect their programs. And, you know, I would hate to think that it might affect it to the point where they'd be penciled out by the national for some reason. You know, times are -- You're sort of skating along not too well, so --

MR. WHEELER: Thank you.

Okay. Paul Talbert is next, I believe I have, and then it will be Mark Early.

28 MR. TALBERT: I want to start by thanking SPU for all the work they put into the public meetings and the EIS and the other parts that are relevant to this large and intrusive project. And I also want to thank SPU for being responsive to the public input that's been received. I've seen this project --

MR. GREENBERG: A little louder, sir. I can't hear you.

MR. TALBERT: I have seen this project evolve over two years, and I think they've been very responsive.

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Alternatives one and two for the most part have very similar impacts. As one of the people who originally suggested alternative one, the tennis courts, I can say that the reasons that I suggested that were the initial belief that we would keep the other -- the parking lot open and also that we get new tennis courts. Well, it turns out that we won't keep the parking lot open under either alternative, and we'll get new tennis courts under either alternative. So in that regard I don't actually -- Those aren't criteria for deciding.

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The reasons that are given in the EIS for preferring alternative one I think are good reasons; however, I think alternative one has less impact on park users in the short run. However, the long-term impacts I think are a little different. So although I hesitate to recommend putting a construction site next to the playground -- that doesn't seem like a great idea -- I have to look at the number of trees that are lost.

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So in alternative one there are 43 trees that are lost, including 12 native trees. And in alternative two there are 36 trees lost, absolutely none of which are native. So in terms of impact on the park, I think losing those extra 17 trees is going to take a lot longer to recover from than, you know, than the kids inconvenienced at the playground. So I guess I would prefer to cut fewer

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trees and go with alternative two.

So under alternative one the EIS also mentions the possibility of putting a temporary road across this area right here, this grassy area (indicating). That concerns me because I believe it might impact the roots of the trees. Let's see.

MR. WHEELER: About one minute.

33

MR. TALBERT: The EIS also raises the possibility of off-site staging. I don't know how serious that is because I know construction people probably like to be close. But I think that idea should be encouraged because clearly if we can keep one of the parking lots open, that would have many fewer impacts on the short-term use.

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The EIS also refers to the Seward Park vegetation management plan but doesn't actually reference it, and they do not refer to the Lake Washington Boulevard vegetation management plan, which would be relevant for the UPAAR area.

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And this plan also discusses possible new ADA parking sites, and it would be helpful if the planners consulted the Seward Park trail plan, which has at least one specific recommendation about where an ADA parking site should go and about crosswalks that might be helpful with increased traffic on the upper loop.

And I have a lot of other comments, but I will submit them in writing.

MR. WHEELER: Thank you very much.

Okay. Mark Early, and that's the last person we have signed up to speak. And I'll let you go now.

MR. EARLY: Okay. Thank you.

My name is Mark Early, and I --

MR. GREENBERG: Would you speak a little louder, sir, please?

MR. EARLY: Sure. You bet.

My name is Mark Early, and I had two items of concern. One was the length of construction time. I know in earlier documents there was construction time mentioned of as short as 18 months. My understanding now is that it's potentially going to be 30 months, and the discussion may be potentially longer than that as well.

36 So I'm kind of wondering how a concrete tank in the ground, although it's a large one, with support columns inside, how that can take, even with its auxiliary pumping equipment, how that can take longer than the Space Needle to build. The Space Needle took 400 days from the time they took a shovel ceremoniously and turned up some dirt to the time that it was ready to accept visitors -- 400 days.

This project seems to be, I guess, more complicated

1 than I understand the justification for. So that's one
2 concern is we need to get are there ways to try to shorten
3 the amount of construction time so as to mitigate --
4 whichever alternative is chosen -- mitigate the impacts to
5 the neighborhood, the people that use the park, and the
6 neighbors who are adjacent to the construction.
7 The other kind of item of concern certainly has to
8 be cost. This alternative seems to, at least in my
9 reading of portions of the EIS, seems to sort of bend over
37 10 backwards to justify alternative one, which isn't the same
11 as the old alternative one. It seems to bend over
12 backwards to justify its particular configuration when I
13 think -- and also, I guess, there are concerns that
14 there's bedrock just a short distance down in the ground,
15 so there's going to be blasting and a lot of pile driving,
16 a tremendous amount of noise created, whereas other --
17 Some of the other alternatives, I haven't look at
18 the geotech reports on the other alternatives, but just
38 19 kind of vaguely as an amateur looking at where they seem
20 to be sited, I'm not sure that there would be -- You know,
21 it doesn't seem to me that there would be the issues of
22 striking bedrock as quickly as they are going to where
23 it's going to be underneath the tennis courts.
24 So I would think that would tend to shorten the
25 construction time, you know, if other alternatives didn't

have to go through bedrock with blasting and the like. So those are my concerns.

MR. WHEELER: Very good. Thank you very much.

MS. MEYER: The man that spoke before, I need his name.

MR. WHEELER: Okay. The gentleman that spoke just before, --

MR. GREENBERG: Can I ask a question?

MR. WHEELER: -- could you give --

Hang on just a minute. Could you give your full name again?

MS. MEYER: So I can put it on the record.

MR. TALBERT: Paul Talbert.

MS. MEYER: Talbert?

MR. TALBERT: You want me to write it on there?

MS. MEYER: Sure. Thank you very much.

MR. WHEELER: Okay. Again, I want to reemphasize the purpose today is to hear public comments, so we're not trying to respond to questions.

You had a questions or a comment, though?

MR. GREENBERG: Well, I have a question, yeah. I would like to know in all of the deliberations that have been going on, and they've all been based on

suggestions of land locations; is that correct? Versus there was no other consideration for tanks being sunk into -- just brought in like we brought in components for the floating bridge. You can't bring those tanks into the water and drop those tanks into the lake and then just have the pipes go through them? Which would seem to me to be a heck of a lot cheaper.

MR. WHEELER: So here's what I'm going to say.

MR. GREENBERG: My question is have you considered any other type of resolving this problem?

MR. WHEELER: So I need to clarify something again. Tonight is just to hear your comments. If you want to officially make that as a comment that you wish that they do or that they should look at it or whatever, you can go ahead and make that comment; but they are not here tonight to answer questions. The way -- This is a very formalized public hearing. It's not meant to have a dialogue or discussion. So I need to make sure you understand that.

If you want to make that as a public comment, I need your name, and we need you to sign in on one of the forms.

MR. GREENBERG: I've already signed in.

MR. WHEELER: Okay. So we need your name for the record, and then we can take what you just said as

a comment. And instead of asking it as a question, I would maybe help you rephrase it as being a comment that you would like to make that have they looked at that as an alternative.

Do you want to do that?

MR. GREENBERG: Yes. I didn't want to make it a discussion and take up these people's time if you've already --

MR. WHEELER: Right.

MR. GREENBERG: -- if you've already --

MR. WHEELER: If you want to talk off line, you're welcome to do that.

MR. GREENBERG: Have you had anybody speak about that point?

MR. WHEELER: Nobody has, and they're not here to answer that type of question tonight. I know that's frustrating to you; but again, it's a formal process, so --

Okay. So if you want to just go ahead and give us your name. And could you state your name for the record? I know you didn't want your name on the record.

MR. GREENBERG: My name is Jacob L. Greenberg.

MR. WHEELER: Thank you. Okay. And we'll have that.

Is there anybody else that is interested in the official public hearing to have any comments?

MR. EARLY: Could I make just an addendum about distributed -- distributed storage? I was wondering if --

MR. WHEELER: State your name again just for the record.

MR. EARLY: Mark Early. I just was wondering if distributed storage throughout the basin area, I think it would be very helpful to see delineated

40 how that compared on a cost basis with the single large 2-1/2-million gallon structure, whether or not a hundred, you know, smaller tanks of 10,000 gallons, 20,000 gallons, how those might -- you know, how that might work as far as the project.

MR. WHEELER: Okay. We'll include that as part of your earlier comments then. Thank you.

MR. EARLY: Thank you.

MR. WHEELER: Okay. We are then at an end of the public hearing. Thank you for this, and I'll get this up here.

And I want to thank everybody for coming out tonight. I know it's always tough to come to a meeting. I know this is a very structured meeting. I know that can be frustrating because, you know, you'd like to have some

dialogue, but that's not the purpose of tonight. Tonight was to hear your input on the draft EIS.

The City of Seattle appreciates your comments tonight, and it will consider that. As Betty said, they will look at sometimes combining comments if they're similar, but basically respond to every comment that's there through the final EIS.

So any last comments from the City of Seattle?

MR. LEE: I just really appreciate all of you coming and taking your time. And thanks to those who, you know, provided written comments. It's very much appreciated, and we'll get back to you.

And also recognizing the structure of this meeting, if you have questions or you'd like to have more of a dialogue, I'm happy to have that with you obviously after the meeting is done.

MR. GREENBERG: Sir -- Sir, are my comments and asking more questions what you're considering as my making a statement?

MR. WHEELER: It was interpreted as a comment that you made with your name, and it's on the record.

MR. GREENBERG: Okay. It's now on the record as one of my comments?

MR. WHEELER: That's correct.

Betty, did you have a last comment you wanted to make, or are you done?

MS. MEYER: No, just thank you.

MR. WHEELER: Okay. Thank you, everybody, for your time. And remember, you have until October 17th to officially make any written comments, and you're welcome to do that.

And we will end the meeting. Thank you, everybody.

Thank you for the location, also. It's very nice.

END OF PROCEEDINGS: 7:10 p.m.

1 **C E R T I F I C A T E**

2 STATE OF WASHINGTON)
) SS
3 County of King)

4

5 I, the undersigned Washington Certified Court Reporter, pursuant to RCW 5.28.010 authorized to
6 administer oaths and affirmations in and for the State of Washington, do hereby certify:
7 That the annexed and foregoing public comment hearing held on October 8, 2012, was taken stenographically before
8 me and reduced to typewritten form under my direction.
I further certify that all objections made at the
9 time of said proceedings to my qualifications or the manner of taking the deposition or to the conduct of any
10 party have been noted by me upon the transcript.
I further certify that I am not a relative or an
11 employee or attorney or counsel of any of the parties to said action, or a relative or employee of any such
12 attorney or counsel, and that I am not financially interested in the said action or the outcome thereof.
13 I further certify that the proceedings, as transcribed, is a full, true and correct transcript of the
14 testimony, including questions and answers and all objections, motions and exceptions of counsel made and
15 taken at the time of the foregoing hearing and was prepared pursuant to Washington Administrative Code
16 308-14-135, the transcript preparation format guideline.

17 IN WITNESS WHEREOF, I have hereunto set my hand this 11th day of October, 2012.
18

19

20 Jeanne Gersten

21 Jeanne M. Gersten, RMR, CCR
Registered Merit Reporter
22 Washington CCR #2711

23

24

25

Response to Public Hearing (PH) Comment 1 (Maher)

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

SPU's actions to inform and involve the public in the scoping process are summarized in Section 1.3 of the Final EIS. Ms. Maher sent an email to SPU's North Henderson project email address (SPU_HCSO@seattle.gov) on May 27, 2011 asking how to provide scoping input. Because of an unfortunate and inadvertent miscommunication between two SPU staff, she did not receive a timely response. By letter postmarked June 15, 2011 and received at SPU on June 16, 2011 (i.e., before the deadline for scoping input), Ms. Maher submitted extensive scoping input and asked why SPU had not responded to her May 27, 2011 email. Alerted to the situation, SPU staff immediately apologized to Ms. Maher via email on June 16, 2011 and provided a link to the scoping meeting materials. There were no other emails that did not receive a timely response, and the miscommunication regarding Ms. Maher's email did not compromise the scoping process in any way.

Response to Public Hearing (PH) Comment 2 (Wenger)

The information in Section 3.4 regarding the tennis courts being completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, assumes (per Section 3.4.2) that the tennis courts and Parking Lot 1 are used for construction staging and contractor parking for the Parking Lot Alternative. If the tennis courts are not utilized as such, re-building the tennis courts might not be necessary.

Response to Public Hearing (PH) Comment 3 (Wenger)

Section 3.6 describes the routine maintenance activities, their frequency, the type of equipment, the number of staff involved, and the impact to Seward Park. In some cases, the CSO storage tank will be accessed by hatches in Parking Lot 1. In other cases, the maintenance activity will require driving on the surface of the tennis court(s). The maintenance truck will travel on the apron outside of the doubles sideline to the extent feasible.

Response to Public Hearing (PH) Comment 4 (Wenger)

Comment noted. As described in Sections 4.2.1.1, 4.2.2.1, 4.2.3.1 and 4.2.4.1, park users will need to seek other tennis courts during construction of either alternative, and there are eight other public tennis facilities within the vicinity. Four of those tennis facilities are within 2 miles of Seward Park; the other four tennis facilities are within 3 to 7 miles of Seward Park. As described in Section 3.4, the Seward Park tennis courts will be completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, unless Seattle Parks personnel decide during the design stage that they will prefer a different use (e.g., basketball courts, picnic area). After construction is completed, the tennis courts will be reopened.

Response to Public Hearing (PH) Comment 5 (Kinerk)

Comment noted. The EIS considered both nearby residents and park users in evaluating the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. The Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents.

The EIS has been modified to further clarify the rationale for identifying the Tennis Courts Alternative as the preferred alternative. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative, and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on

environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Public Hearing (PH) Comment 6 (Kinerk)

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Public Hearing (PH) Comment 7 (Kinerk)

SPU does not anticipate that vibration, blasting, or other construction-related activities will damage nearby homes or sewers because construction best management practices will be implemented. However, pre and post-construction surveys of adjacent homes and private sewer lines will be conducted and any construction-related damage will be repaired. Additionally, monitoring of vibration will be performed to indicate whether the construction procedures used are generating surface and subsurface ground movements, and if vibration intensities are within specified limits.

City record drawings, sewer cards, and GIS data indicate the side sewers from the properties adjacent to the potential storage facility at the Tennis Courts Alternative site connect to a 15-inch diameter combined sewer line that is located approximately 30 feet to the west of the storage facility and heads north to the intersection of South Juneau Street and Lake Washington Blvd. This combined sewer line and the individual side sewer lines from the adjacent properties will not be impacted by the potential storage facility construction at the Tennis Courts Alternative site. In the unlikely event that these sewer lines were damaged due to construction vibration, they will be repaired or replaced by the contractor. The contractor will be required to use construction methods that will have the least impact to the slope or the surrounding trees (e.g., directional drill or micro tunnel).

The potential for observed vibration and any associated effects depends on several factors, including the subsurface conditions, nature of the source of the vibration, and the distance from the source to the receiver. All else being equal, it is likely that the potential for noticeable vibrations at nearby residences will be higher for the Tennis Courts Alternative than for the Parking Lot Alternative. Potential sources of vibration associated with the proposed construction include shoring installation, excavation, equipment traffic, and other general construction-related vibrations. The likely shoring installation methods include secant piles and grouting. Both of these techniques are generally considered low vibration-producing methods. Secant pile installation involves drilling a large diameter cylindrical hole (usually 2 to 4 feet in diameter) into the ground and filling the hole with reinforced concrete. The process is repeated sequentially with overlapping cylindrical holes until a wall is built into the underlying ground. After the concrete has cured, the adjacent ground can be excavated. Grouting will involve drilling small diameter holes (a few inches in diameter) and injecting cement (or other materials) to stabilize the ground before excavating. Both of these methods generally produce much less vibration and noise than other shoring installation methods, such as impact or vibratory pile driving.

Many studies have evaluated the effects of vibrations on residential and commercial structures and underground utilities. The results of these studies indicate that the peak particle velocity is one of the parameters for assessing potential damage to structures and underground utilities (such as sewers) due to vibrations. Threshold levels of acceptable vibration, partly based on structure or utility type and condition, will be set and specified in the contract documents.

Response to Public Hearing (PH) Comment 8 (Kinerk)

As described in Section 13.2.1.1, park users and nearby residents likely will notice an increase in noise levels during construction, however the construction noise is expected to comply with the maximum allowable noise limits. The City's Noise Control Code (Seattle Municipal Code 25.08) establishes requirements for all construction projects within the City, including the allowable magnitude, duration, and time of day for noise impacts. The purpose of the Noise Control Code is to minimize people's exposure to the dangers of excessive noise; to protect, promote and preserve public health, safety and welfare; and to control the level of noise in a manner which promotes commerce; the use, value and enjoyment of property; sleep and repose; and the quality of the environment. Construction and operational noise assessments were conducted for the proposed project (HDR 2012c and HDR 2012d) and the results are summarized in Section 13 of the EIS. Noise impacts are summarized in Section 13.2, and measures to reduce and manage noise are summarized in Section 13.3. The proposed project is expected to meet the requirements of the City's Noise Control Code.

Response to Public Hearing (PH) Comment 9 (Kinerk)

The existing CSO Storage Facility 8 (in Seward Park) does not have an odor control or a flushing system, which is why there are periodic times throughout the year that unpleasant odors are detected as far away as the existing tennis courts. The new storage facility will have an automated wash down system to clean the storage tank after each use and a carbon based odor control system that will maintain negative pressure in the tank and treat the air drawn through the storage tank.

Response to Public Hearing (PH) Comment 10 (Kinerk)

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including mailing postcards to approximately 1,700 neighbors bordering the project, apprising them of the Draft EIS public hearing and soliciting comments on the Draft EIS. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to Public Hearing (PH) Comment 11 (Kinerk)

The storage tank will be below ground with minimal above grade features visible. Restoration will include native vegetation in keeping with the Olmsted design principles and character of the park. The Olmsted Brothers did routinely work with engineers and utility companies in the development of parks to incorporate existing or proposed infrastructure. An example of this still

exists today with Olmsted's design of Volunteer Park integrating the reservoir and water tower into the park.

Response to Public Hearing (PH) Comment 12 (Kinerk)

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Public Hearing (PH) Comment 13 (Kinerk)

SPU's siting and alternatives analysis process for the Basin 44 sewage overflow reduction project began in the Summer/Fall 2010 and was conducted concurrent with a public participation process. SPU's first critical decision was to select a strategy for reducing sewage overflows near Seward Park. The strategies included underground storage, wet weather treatment, flow transfer, or a combination of sewer separation and inflow/infiltration reduction. Through the public process in the Winter 2010/2011, SPU selected underground storage as the preferred strategy for Basin 44. In early 2011, SPU held meetings in which it discussed the various options for siting an underground storage tank. During meetings in January and March 2011, SPU provided three siting options for the tank: underneath private property, in park land (i.e. Seward Park), or underneath a City street (i.e., Lake Washington Blvd). Representative examples of the three siting options were shown in the public meetings. The "representative

site" for the Seward Park alternative was shown in the parking lot. By March 2011, based on public input and consideration of financial, social, and environmental criteria, SPU narrowed down the alternatives and focused only on alternatives within Seward Park. Based on public input from stakeholders, SPU identified two viable locations within Seward Park: the Parking Lot Alternative and the Tennis Courts Alternative. In June 2011, SPU presented these two alternatives and the No Action Alternative at its EIS Scoping Meeting. Although the Tennis Courts Alternative was not shown in the earlier presentations, SPU did not consider this to be a new alternative, but rather a permutation of the park alternative that had been discussed in previous public meetings. The environmental analysis was completed and SPU subsequently identified its preferred alternative. The Draft EIS was prepared and issued, and SPU received comments on the alternatives as part of the Draft EIS public review. In response to public comment, SPU has revised the EIS to include an explanation of the public process used to develop the two alternatives. There will be an additional opportunity for the public to provide input on the two alternatives at a City Council public hearing in 2013, before the City Council makes a final decision on project siting.

Response to Public Hearing (PH) Comment 14 (Kinerk)

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Public Hearing (PH) Comment 15 (Kinerk)

Seward Park as a whole reflects the original vision of the Olmsted Brothers, however the character of the proposed locations for the storage tank have evolved away from several of the Olmsted design principles and the preliminary plan of 1912.

The Olmsted Brothers did promote a "foreground of woods" to buffer residential development from Lake Washington Boulevard, where possible. While trees will be removed as part of this project, a significant amount will remain on the forested slope. There is the potential for greater visibility of the houses above the western slope adjacent to the tennis courts. Due to the removal of the trees, there is the potential for greater visibility of the houses above the western slope adjacent to the tennis courts. Disturbed areas will be enhanced with forest restoration planting, including native conifer and deciduous trees. SPU and Parks plan to involve the adjacent neighborhoods in the restoration of Seward Park regardless of which alternative is selected. The public involvement process for restoration will occur during the project's design phase, from 2013-2014.

Response to Public Hearing (PH) Comment 16 (Kinerk)

Due to the removal of the trees, there is the potential for greater visibility of the houses above the western slope adjacent to the tennis courts. Disturbed areas will be enhanced with forest restoration planting, including native conifer and deciduous trees. SPU and Parks plan to involve the adjacent neighborhoods in the restoration of Seward Park regardless of which alternative is selected. The public involvement process for restoration will occur during the project's design phase, from 2013-2014. There is no evidence that the potential for greater visibility of the houses will lead to increased crime in the neighborhood.

Response to Public Hearing (PH) Comment 17 (Kinerk)

As described in Sections 4.2.1.1, 4.2.2.1, 4.2.3.1 and 4.2.4.1, park users will need to seek other tennis courts during construction of either alternative, and there are eight other public tennis facilities within the vicinity. Four of those tennis facilities are within 2 miles of Seward Park; the other four tennis facilities are within 3 to 7 miles of Seward Park. As described in Section 3.4, the Seward Park tennis courts will be completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, unless Seattle Parks personnel decide during the design stage that they will prefer a different use (e.g., basketball courts, picnic area).

Response to Public Hearing (PH) Comment 18 (O'Brien)

SPU's actions to inform and involve the public are summarized in Section 1.3 of the Final EIS. As noted in Section 1.3, SPU not only met all SEPA requirements for public notification but also conducted additional voluntary public outreach, including sending postcards to all neighbors bordering the project, soliciting input during the scoping process and soliciting comments on the Draft EIS. The scoping notice, the Notice of Availability of the Draft EIS, and the Draft EIS each included descriptions of the three alternatives evaluated in the Draft EIS: the Tennis Courts Alternative, the Parking Lot Alternative, and the No Action Alternative. The scoping notice did not indicate a preferred alternative because it would have been inappropriate to identify a

preferred alternative before conducting an environmental analysis. Once the environmental analysis was conducted, SPU identified the Tennis Courts Alternative as SPU's preferred alternative, and this preference was noted in the Draft EIS. A final decision will be made by the City Council during the proceedings that are required to address Initiative 42. Commenter's assertions do not provide a basis for reopening the SEPA process.

Response to Public Hearing (PH) Comment 19 (O'Brien)

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, to protect public health and water quality in Lake Washington. This project is also required by federal and state law.

Response to Public Hearing (PH) Comment 20 (O'Brien)

Comment noted. The majority of the impacts will only occur during construction. As described in Sections 3.1 and 3.4, most of the CSO facilities will be underground, the tennis courts and parking lots will be rebuilt after construction, and the natural areas will be re-vegetated.

As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. The Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Public Hearing (PH) Comment 21 (Smith A.)

The information in Section 3.4 regarding the tennis courts being completely rebuilt under either the Tennis Courts Alternative or the Parking Lot Alternative, assumes (per Section 3.4.2) that the tennis courts and Parking Lot 1 are used for construction staging and contractor parking for the Parking Lot Alternative. If the tennis courts are not utilized as such, re-building the tennis courts might not be necessary.

Response to Public Hearing (PH) Comment 22 (Smith A)

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, as required by federal and state law.

Response to Public Hearing (PH) Comment 23 (Smith A)

As described in Sections 2.1, 2.3, and 2.4, this project is necessary to reduce CSO discharges to a long-term average of no more than one untreated discharge per year, to protect public health and water quality in Lake Washington. This project is also required by federal and state law. Not implementing the project due to concerns about the project's generation of greenhouse gases is not a viable option. Section 10.5 describes construction practices that will be encouraged that reduce greenhouse gases.

Response to Public Hearing (PH) Comment 24 (Smith A)

Traffic modeling performed for the EIS incorporated the fact that construction trucks are larger than standard vehicles.

Response to Public Hearing (PH) Comment 25 (Smith A)

As described in Section 8.5 of the EIS, SPU will take measures to minimize impacts associated with construction impacts. Those measures include, but are not limited to: (1) schedule the construction of project elements so they do not overlap, when possible, to reduce the number of vehicle trips occurring at one time; (2) provide information at Seward Park and on SPU and Seattle Parks websites regarding alternate routes drivers and bicyclists could use to avoid construction traffic; and (3) perform a condition assessment on the construction route prior to the proposed project so roads could be restored to their prior condition or better. With the implementation of these measures, SPU does not foresee significant, unavoidable adverse impacts associated with transportation.

Response to Public Hearing (PH) Comment 26 (Smith A)

As described in Section 8.5 of the EIS, SPU will schedule the construction of project elements so they do not overlap, when possible, to reduce the number of vehicle trips occurring at one time. This will reduce the impacts associated with ground vibration from truck traffic along Orcas. With respect to liquefaction induced by truck traffic, the amount of energy required to induce liquefaction is much larger than that generated by vehicular traffic. Therefore, ground vibration from truck traffic is not expected to cause liquefaction underneath your home. SPU does not expect truck traffic along Orcas to cause enough vibration to create settlement or structural concerns at your home.

Response to Public Hearing (PH) Comment 27 (Smith A)

Comment noted. Although an analysis of potential economic impacts is not required by SEPA and was excluded from the scope of the EIS, Audubon Center and clay studio usage and financial information have been added to the Final EIS to further clarify the construction impacts

on recreation. Sections 4.2.1.1 and 4.2.2.1 have been revised to clarify the construction-related impacts that noise, dust, and parking lot closures would have on the number of Audubon Center visitors and Audubon Center and clay studio program participants; the impact this might have on income earned from program tuition, building rentals, and store sales; and the impact this might have on revenue from individual and foundation grants and donations. The Parking Lot Alternative would have more impact than the Tennis Courts Alternative on recreation usage of the Audubon Center and clay studio, because of the proximity of these facilities to the Parking Lot Alternative construction site. A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code.

Response to Public Hearing (PH) Comment 28 (Talbert)

Thank you for your comment.

Response to Public Hearing (PH) Comment 29 (Talbert)

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. The Tennis Courts Alternative has greater impacts on fewer people (i.e., neighboring residences), and those impacts will be felt more frequently and for a longer duration. In contrast, the Parking Lot Alternative will have impacts on a greater number of people (i.e., park users), and for each individual park user, those impacts may be less frequent and for shorter durations compared to the neighboring residents. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Public Hearing (PH) Comment 30 (Talbert)

Comment noted. As prescribed by SEPA, the EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.). Both the Tennis Courts Alternative and Parking Lot Alternative have environmental impacts, some of which are the same for both alternatives and some of which are different. As now described in the EIS, SPU recommended the Tennis Courts Alternative as the preferred alternative because (a) Seward Park is a destination park, visitors from all over Seattle come to enjoy its amenities; (b) the Tennis Courts Alternative would have less short-term (construction) impacts on recreation than the Parking Lot Alternative; and (c) other environmental impacts

were not significant as defined by SEPA (i.e., there was not a reasonable likelihood of more than a moderate adverse impact on environmental quality). A final decision will be made by the City Council during the proceedings that are required to address Initiative 42 and the City's Land Use Code. In the meantime, Section 1.4 of the Final EIS acknowledges that siting is a significant area of controversy.

Response to Public Hearing (PH) Comment 31 (Talbert)

The sites were selected to minimize impacts to significant habitat resources within Seward Park and the vicinity, including impacts to trees, as well as the Magnificent Forest and well functioning shoreline areas.

Both of the alternatives were developed with a goal of limiting the number of trees affected and limiting impacts to only those trees whose functions could be replaced within a reasonable timeframe. This includes avoiding large shade trees, such as the grove of London Plain Trees near the beach area and the native habitat planting near the Tennis Courts Alternative. For both alternatives, the tree removal primarily affects non-native trees, many of which are approaching the end of their normal life expectancy and tree removal will affect less than 1 percent of the approximate 167 acres of tree canopy that is now present within Seward Park. The trees affected by the project alternatives may be used by birds and other wildlife, however they are mostly used by birds as perches or for foraging, rather than for nesting. Birds that may nest in these areas, such as Northern flicker, European Starling, Black-capped chickadee, or American robin, will be precluded from nesting during the construction period, however there is other available habitat for these species near the project vicinity.

After construction, disturbed upland areas will be enhanced with restoration planting, including trees. The restoration will restore habitat, support wildlife into the future, and be in keeping with Olmsted design principles and the character of the park. The shoreline will be restored with native shoreline planting, but tree planting along the shoreline may not be feasible.

Response to Public Hearing (PH) Comment 32 (Talbert)

As described in Section 3.3.2, the decision on which area(s) to use for construction staging and contractor parking will be made by the contractor, working with SPU and Seattle Parks, and will be based on a number of factors. Impacts to trees surrounding the potential temporary public access driveway will be considered in the decision on staging and contractor parking locations.

Response to Public Hearing (PH) Comment 33 (Talbert)

As described in Section 3.3.2, the decision on which area(s) to use for construction staging and contractor parking will be made by the contractor, working with SPU and Seattle Parks, and will be based on a number of factors.

Response to Public Hearing (PH) Comment 34 (Talbert)

The Seward Park Vegetation Management Plan is listed under the author, International Forestry Consultants, in Section 18 References.

The Lake Washington Boulevard Management Plan was followed in developing the UPARR replacement area (Figure 3-9). An in-text citation has been added to the EIS and reference added to the list.

Response to Public Hearing (PH) Comment 35 (Talbert)

Suggestion to follow the Seward Park Comprehensive Trail Plan is noted. SPU is committed to providing reasonable mitigation for adverse environmental impacts, in accordance with SEPA requirements. Construction-related traffic impacts and measures to reduce those impacts are described in Sections 8.4 and 8.5 of the EIS, respectively. Construction-related and long-term impacts to recreation and measures to reduce short- and long-term impacts are described in Sections 4.2 and 4.3, respectively. Any additional required mitigation will be identified either during the City Council proceedings that are required to address Initiative 42 and the City's Land Use Code or during negotiations with Seattle Parks that are part of the process to obtain a Revocable Use Permit. Any mitigation undertaken along the upper loop will be consistent with the Seward Park Comprehensive Trail Plan.

Response to Public Hearing (PH) Comment 36 (Early)

The maximum construction duration is set by the regulatory deadlines which state that construction must begin by May 31, 2015 and the facility finished and fully operational by December 31, 2018, a duration of 42 months. Efforts were made to keep the construction period as short as reasonably possible. The construction period in the EIS of "up to approximately 30 months" was estimated based on multiple factors including limited windows of when in-water work can occur (e.g., for the CSO outfall pipe replacement and the possible shoreline treatment) and the need to perform certain construction activities sequentially rather than in parallel.

Response to Public Hearing (PH) Comment 37 (Early)

The Final EIS evaluates the impacts of each of the alternatives on elements of the natural and built environment (e.g., recreation, cultural resources, transportation and parking, air quality and odors, land and shoreline uses, noise, etc.), as prescribed by SEPA.

Response to Public Hearing (PH) Comment 38 (Early)

The depth to, type of, and properties of the bedrock is expected to be similar at both of the considered sites, based on the limited geotechnical borings and geophysical studies performed. The excavation processes, excavation support systems, and other associated construction techniques are likely to be similar for both sites, insofar as influences from geology or geotechnical conditions are considered.

Response to Public Hearing (PH) Comment 39 (Ginsberg)

SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Storage on land (i.e., underground storage) as well as storage in Lake Washington were considered. SPU considered an alternative which involved constructing a “floating bag” which would expand and fill approximately 20 times per year during storm events. The bag would stay filled for up to 24 hours after a storm event. This alternative was rejected because of the challenges associated with permitting such a facility and the visual, aesthetic and environmental impacts. An alternative such as dropping a concrete tank in Lake Washington was not considered. Current regulations prohibit such a facility from being constructed in the shoreline environment. In addition, because the depth of the water near Seward Park is shallow, the facility would have a considerably large footprint with significant impacts on fish, wildlife, and habitat.

Response to Public Hearing (PH) Comment 40 (Early)

SPU’s alternatives analysis process began in the Summer of 2010. SPU gave consideration to the full range of CSO reduction options including storage, sewer separation, inflow and infiltration reduction, natural drainage solutions (i.e., rain gardens and cisterns), flow transfer, and wet weather treatment. Each of the options was evaluated based on its technical feasibility, financial cost, and social and environmental impacts.

Distributed storage was screened out because of its considerably high costs and social and environmental impacts. On a technical level, the efficiency and reliability of distributed storage in reducing CSOs is much less than a centralized storage facility. This is because the locations of the distributed storage facilities are not optimal. The most optimal location for storage is next to the CSO outfall, which is at the Southwest corner of Seward Park. Because distributed storage would be dispersed throughout the basin, the timing and availability of the distributed storage would not always be in alignment with when it is necessary to reduce CSOs. In addition, constructing distributed storage in Basin 44 would be extremely challenging because of the topography of the basin. Due to the slopes of the streets, cascading distributed storage facilities would be necessary. Distributed storage would have more significant impacts on the public because the facilities would be constructed in the streets, creating transportation impacts throughout the basin. Finally, the costs of distributed storage are more than twice the cost of centralized storage. Based on SPU’s experience in the Windermere and Genesee CSO reduction projects, 500,000 gallon storage facilities cost approximately $50-$60 per gallon compared to $25-30 per gallon for a 2,000,000 gallon facility. Distributed storage facilities would be even smaller than 500,000 gallons, and therefore the costs would be more than 2 times the cost of a centralized facility.

Appendix C Support Information for Recreation Chapter

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Appendix C Supporting Information for Recreation Chapter

Olmsted Design Principles

What are Olmsted design principles?

Seward Park and Lake Washington Boulevard Park were designed by the premier landscape architecture firm of their era. The proposed project would take place in these two parks and impacts may affect Olmsted design principles therefore background on Olmsted design principles is provided in detail in this appendix.

In 1898, the Olmsted Brothers firm was established by John Charles Olmsted and Frederick Law Olmsted, Jr. based on Frederick Law Olmsted, Sr.'s design philosophy.

Frederick Law Olmsted, Sr. is recognized universally for his contributions to American landscape architecture through the design of public parks such as New York's Central Park. He planned and designed the U.S. Capitol Grounds in Washington, was the site planner for the Chicago World's Colombian Exposition in1893, led the campaign to protect Niagara Falls, and designed plans for hundreds of private residences and estates (Washington Park Arboretum Historical Review 2003).

John Charles Olmsted, Frederick Law Olmsted Sr.'s nephew and adopted son, was his senior partner in the Olmsted Brothers firm until his death in 1920. During his tenure as senior partner, the firm undertook over 3,500 commissions. These included plans for park systems in Baltimore, Seattle, Spokane, and Portland; parks in Charleston, New Orleans, and Dayton, Ohio; and campus plans for Smith, Mount Holyoke, the University of Chicago, and the University of Washington. John Charles Olmsted. was the primary author of the 1903 Report to the Seattle Park Board, and continued to serve as an advisor and planning and design consultant to the city up to 1920. In addition, he developed the plans for the University of Washington campus in 1904 and the 1909 A-Y-P Exposition on its grounds, and the plans for the Fort Lawton Military Reservation in 1910. John Charles Olmsted was responsible for all of the firm's work on the West Coast from 1903-1920, and he visited Seattle regularly until 1913 when he discontinued travelling owing to declining health (Ibid).

Frederick Law Olmsted, Jr. (Rick) was Frederick Law Olmsted's son who succeeded his father in 1895 as American's most recognized landscape architect. Although he had little formal training in landscape design before entering his father's firm, he became a partner in its successor firm, the Olmsted Brothers, in 1898. As had his father, he played an important role in education, and served as the first American Professor of Landscape Architecture at Harvard in 1900. His first project in the Olmsted Brothers firm resulted from an appointment to the MacMillan Commission, which was organized to revive the Mall and L'Enfant's plan for Washington, D.C. This led to the Olmsted's park plan for the District and design of its Rock Creek Park. Rick was a senior partner in the Olmsted Brothers 1920-1957, where he continued

his father's work on scenic reservations. He played a critical, behind-the-scenes role in the National Park Act of 1916, and participated in planning Yosemite National Park and Arcadia National Park (Ibid).

The Olmsted Brother's worked in Seattle for 34 years, beginning with its 1903 city-wide plan (Olmsted Brothers 1903). The 1903 plan envisioned a series of parks of varying sizes connected by pleasure drives and parkways to form an emerald necklace that would wrap around the city limits. A total of 68 parks and 18 boulevards were recommended for inclusion in the city-wide plan. Today 17 parks and 14 boulevards have been developed using the Olmsted design, including Seward Park and Lake Washington Boulevard Park (Easton 2003).

Influenced by their training and personal childhood experiences in the countryside, the Olmsted Brothers continued the landscape design traditions by recognizing that scenery had an unconscious influence (Beveridge 2000). In other words, parks provided more benefits to human needs than could be tangibly documented. Olmsted Sr. taught that landscapes have "an effect on the human organism by an action of what it presents to view, which action, like that of music, is of a kind that goes back of thought, and cannot be fully given the form of words" (Boston 1886).

There are common design principles throughout all Olmsted Parks, but the Olmsted Brothers had specific visions for each park or boulevard. As towns expanded into thriving cities, John Charles Olmsted in particular was a proponent of acquiring and preserving land for future public use for a cohesive, planned park system.

Two primary design styles can be found in Olmsted-designed parks; Pastoral Style and Picturesque Style.

- Pastoral Style influenced by the aesthetics of large England Estates, the Pastoral Style included vast expanses of lawn with groves of trees and shrubs in framed views. "Framing views" is a landscape design technique, similar to windows in a house, where vegetation or site structures are intentionally used to focus attention on a specific view of a unique and special feature. This feature could be a sculpture, specimen tree, lake or building. The Olmsted Brothers often used this technique in their design and envisioned vegetation being used to frame views of Lake Washington and Mount Rainer from Seward Park. The purpose of the Pastoral Style was to experience the interior space indirectly by not focusing

A framed view of the lake from the Seward Park Meadow illustrates the Pastoral Style.

on any particular element or specimen plant and being directed to focus on framed views of special site features. Dark forms and details were presented in the foreground with lighter shades and simpler forms in the background to create the illusion of larger spaces. This style is similar to the perspective techniques in landscape painting. The Pastoral Style emphasized the whole place, and orchestrated users through spaces to unconsciously benefit from the park (Beveridge 2000).

- The Olmsteds also used the Picturesque Style in their designs. This style included numerous layers of groundcovers, shrubs, and trees to form complex textures that illustrated the bounty of nature. This style enhanced the typical characteristics of nature to new heights. It involved planting dense quantities of native and non-native plants with different textures to capture the changing light and shadow. These combinations created mysterious jungles of planting that exemplified the complexity of the natural world (Beveridge 2000).

Along with the two design styles, several design principles can be found in Olmsteds' works (NAOP 2011):

- The principle regarding place was always important to the Olmsted designs. The design of parks and parkways considered the context and immediate geography of the space. The designs would use the natural occurring features of sites (e.g., water, rock outcroppings, and bluffs) and enhance them by drawing attention to their character and location.
- Olmsted parks included a principle of unified composition with specific experiences in mind for different parks. Each park contained unifying elements with a unique identity without divisive or conflicting uses. In the 1903 report, Olmsted wrote, "The different parks of the city should not be made to look as much like each other as possible, but on the contrary every advantage should take advantage of differing conditions to give each one a distinct individuality of its own," (Olmsted 1903).
- The principle of orchestration of movement included circulation networks for pedestrians, bicyclists, and vehicles to safely experience the park in planned arrangements of sequence. This included promoting key views, promontory points, and buffers between uses.
- The principle of orchestration of use planned specific activities (e.g., tennis courts, picnicking) that were ideally located to fit

View of Lake Washington Boulevard Park showing cherry blossoms in season.

that planned activity. This included the orientation and siting of elements, grouping common activities, and avoiding conflicting uses.

- While the principle of sustainable design is used and applied differently today, the Olmsteds planned for low maintenance and used mostly native plants or non-native plants that were easily maintained and adapted to that climate. They also recognized the importance of understory planting for habitat. John Olmsted commented regarding Woodland Park in Seattle, "(T)he process of grubbing and clearing out the wild shrubbery and herbaceous plants ought not to proceed further without very careful study of the reasonable necessities of the case. It is said that the woods are dark, damp and chilly a good deal of the year when more open portions of the park are entirely comfortable and attractive. If this is so, it is a very strong argument against cleaning up the natural undergrowth and thereby to a great extent destroying the natural beauty of the woods," (Olmsted 1908).
- Their principles also included a comprehensive approach for larger park system plans, such as Seattle, Boston, and Portland. Parks were located adjacent to neighborhoods, bodies of water, and unique geographic features. The surroundings of each park were taken into consideration and connected through boulevards, such as Lake Washington Boulevard.

The Olmsted brothers recommended, influenced, and designed many parks in the City of Seattle.

Recommended: The Olmsted Brothers plans of 1903 and the expanded plan of 1908 recommended acquiring land and connecting existing public parks. The Olmsted plans focused on creating a network of parks and boulevards. The parks and boulevards that have been built, but not based on detailed plans, could be considered recommended by the Olmsted Brothers.

Designed: In addition to the development of city-wide plans, the Olmsted Brothers created detailed plans for several parks and boulevards. These site-specific plans are remnants of the Olmsted Brothers' original vision for particular public open spaces. Some of the plans were preliminary and conceptual, while others included detailed sketches of walkways and bridges. These plans were later used to construct parks and boulevards, though not all projects were fully realized.

Influenced: The influence of the Olmsted Brothers in the acquisition and development of Seattle parks is difficult to distinguish from what may have occurred by other means. However, the unique design philosophy of the Olmsted Brothers encouraged connecting parks and boulevards. Parks and green spaces that are closely adjacent to Olmsted-designed or recommended parks could be considered influenced by the Olmsted Brothers. Other green spaces that incorporate Olmsted design principles could also be considered influenced. Additionally, the sense of urgency that the Olmsted's communicated to the city for creation and preservation of public open spaces is visible today in Seattle's many parks, and dedicated financial support through publicly-funded park levies. John Charles Olmsted is also credited

with introducing the concept of childhood playfields and playgrounds to the City of Seattle (FSOP 2011a and Parks 2011b).

How are the Olmsted design principles reflected in Seward Park and Lake Washington Boulevard Park?

Seward Park Original Design

The potential of the land that eventually became Seward Park was not fully realized until the Olmsted Brothers' 1903 report. It was not named Seward Park until 1911 when the city acquired Bailey Peninsula and renamed it Seward Park. The Olmsteds wrote, "The topography of the peninsula is sufficiently varied to be exceedingly interesting, and as a terminus to the system of park-ways it would be especially good" (Olmsted 1903). John Charles Olmsted, the primary designer of Seward Park, commented that the future park "forms the most available large tract of land that is uniformly and beautifully covered with woods, and should be secured before the woods are injured" (Olmsted 1903). After the acceptance of the 1903 report, the Olmsted Brothers created their preliminary plan for Seward Park in 1912. This plan included 4.2 miles of drives, 12 miles of walking paths, boating access, basketball and tennis courts, swimming, croquet, playground, dancing pavilions, summer dwellings, and maintenance facilities. These activities and their supporting infrastructure were incorporated into the natural setting of Seward Park, retaining 95 percent of the forest. The intent of the Olmsted plan and that of the Seattle Board of Park Commissioners from that time was to maintain this special park in its natural condition.

The preliminary plan of 1912 for Seward Park contains minimal details to determine whether Pastoral or Picturesque styles were employed, but it was largely intended as a wooded preserve. The plan for the park incorporates all of the Olmsted design principles with a comprehensive approach, carefully designed paths and uses, a unified composition, and takes advantage of the unique setting in Lake Washington.

Seward Park Compared to Olmsted Design Principles

The improvements in Seward Park, like many large parks, were incremental over time. This was partly due to lack of funding to fully realize the Olmsted Plan of 1912 (Parks 2005). Additionally, much of the initial funding raised by the city went toward acquiring more properties as recommended in the Olmsted 1903 Report. By 1913, some changes had been made to the new park, but there is little documentation of park conditions until the 1920s. Prior to the 1920s, it is difficult to determine the degree to which the park adhered to Olmsted design principles because little had been designed and built. However, the design intent for the park to be an accessible natural forested preserve remained.

In 1916, Jacob Umlauf, Seattle Park Department Head Gardener, incorporated changes with more ornamental, garden-art like character. These included planting non-native trees, removal of understory planting to encourage park use, removal of woody debris and snags to prevent forest fires, and the establishment of a fish hatchery. In 1934, a severe windstorm toppled many trees resulting in 25 to 40 percent loss of the original forest (Parks 2005). During the

Great Depression, Works Progress Administration workers were employed in Seward Park for various improvements, including building restrooms, the bathhouse, and general clean up. Due to high levels of unemployment, 600 to 700 workers turned out to work and it was not possible to supervise them adequately, resulting in an over-manicured landscape, logging away trees, removing debris, and understory vegetation (Parks 2005). With pressure for greater accessibility, a perimeter road was constructed in the 1930s, though many warned that it would forever change the natural character of the park.

A 1936 plan of Seward Park in the Seattle Post-Intelligencer (PI) shows the amount of changes that had occurred since the opening of the park. These included the perimeter drive, large open meadow areas from clearing of trees, several large parking lots, a fish hatchery, and a new and larger entrance due to the lowering of Lake Washington in 1916.

A 1950 plan in the Seattle PI illustrates additional changes, but with greater attention to the magnificent forest in the middle of the park (Parks 2005). In 1953, the amphitheater was built to provide a venue for outdoor music. Due to the popularity of the amphitheater, traffic congestion became a problem and the amphitheater was closed for large events by 1960. In 1970, the perimeter road was closed to vehicles, but remained open for bicyclists and pedestrians.

After 1978, the negative impact of the fish hatchery on the natural ecology of the lake led to its closure (History Link 2011). Instead, the facilities were used as an educational research lab by the University of Washington's Department of Fisheries until 1997.

The changes that have accrued over time in Seward Park have evolved away from several Olmsted design principles and the preliminary plan of 1912. The Olmsted plan did include a variety of activities, many of which were located on the northern point of the peninsula, but the majority of the park interior was to be preserved as a forest. As the Seward Park Vegetation Management Plan states, “(O)ne can only conjecture how their ideas would have translated to reality” (Parks 2005). The design principle of unified composition has diminished as the park was divided by roads and various activities. The principles of orchestration of movement and uses are not as organized and logically separated as the Olmsteds envisioned. The incorporation of non-native trees and removal of understory plantings has resulted in loss of sustainable design. The principles of place and comprehensive approach are still visible. Changes in Seward Park from the Olmsted plan are due to lack of initial funding to implement the 1912 plan, consistent social pressure to include more activities

Two tennis courts in Seward Park next to the lake.

and uses of the park, and changes in city leadership with different philosophies of park use and aesthetics.

Seward Park Existing Conditions Compared to Olmsted Design Principles

While much has changed from the preliminary plan of 1912, Seward Park does remain a forested remnant for similar activities and experiences that the Olmsted Brothers first envisioned. Features in Seward Park within the area of proposed modifications include tennis courts and parking lots.

Specifically, the Olmsted Brothers incorporated tennis courts into their plan, though the original planned location was in the northern part of the peninsula rather than the current location in the southwest portion of the park. The amount of land available for park use is now greater than the amount considered by the Olmsted Brothers. The park was expanded with the lowering of the lake and infilling near its entrance. It is conceivable that much of the flat terrain that the tennis courts now reside upon was steeper and a part of the bluff surrounding the lake or under water when Olmsted first visited the park. The original plan shows a Pastoral Style terrain in the southwest corner with drives and trees connecting to Lake Washington Boulevard and large docks protruding into the lake. The setting of the tennis courts in relation to the slope to the west incorporates the active use of the space while providing opportunities for excellent views of Lake Washington. The courts are also located adjacent to parking and many of the other active recreational elements of the park today, including the playground, beaches, and open lawns. While the courts are in a different location, they do follow the design principles of place, orchestration of use, and orchestration of movement, within the context of the current park design. The addition of the bulkhead and non-native poplar trees adjacent to the tennis courts does not align to Olmsted design principles or to the original vision of the park to be kept as natural as possible. The 1912 plan also shows the distance from the shoreline of any path or drive with only key areas for shoreline access. This is in contrast with the current perimeter path that meanders immediately adjacent to the shoreline in most areas.

Parking in Seward Park

Parking lots present a modern addition to Seward Park as automobiles became the prime means of travel. The Olmsteds could not have envisioned the extent of this requirement and thus did not plan for such large parking lots in their 1912 plan for Seward Park, nor for any of their parks. The 1912 plan provides for minimal amounts of parking adjacent to the main hub of active recreation in the northern part of the peninsula.

While a parking lot in and of itself is a use the Olmsteds planned for, the surrounding vegetation in its current location is far from the original vision of the Olmsted plan. The addition of the bulkhead, non-native poplar trees, and areas of lawn were not a part of the original vision for Seward Park and do not necessarily align to the design principles of the Olmsted Brothers.

Lake Washington Boulevard Park Original Design

Photo of Lake Washington Boulevard Park illustrates the unconscious experience of views with wooded foreground.

Lake Washington Boulevard Park is a seven-mile strand of the emerald necklace beginning in the north at the Washington Park Arboretum and continuing to Seward Park in the south (Parks 2010). This narrow boulevard provides a key link between two of the Olmsted-designed parks in Seattle as well as several other smaller parks along the shore of Lake Washington. Designed as a pleasure drive, the Olmsted Brothers envisioned active recreation as the principal use of Lake Washington Boulevard Park, including jogging, bicycling, boating, swimming, and fishing (Olmsted 1903). While the corridor continues to provide means of active recreation, it also provides the unconscious experience of near continuous views of Lake Washington and the Cascade Mountain Range beyond. It was important to the Olmsted Brothers that the land immediately west of the boulevard be preserved as a wooded foreground and buffer to development and a backdrop to the lake (EDAW 1986). Expanses of lawn with deciduous trees were desired to allow for views and “uninterrupted sequence of experiences” (Parks 2010). The formal boulevard experience was cleverly contrasted with the natural parkways that connected neighborhoods to Lake Washington Boulevard Park through ravines and the wooded hillside to the west.

Lake Washington Boulevard was designed with a Pastoral Style, and includes many of the Olmsted design principles.

Lake Washington Boulevard Park Compared to Olmsted Design Principles

The Olmsted Brothers developed preliminary layouts of Lake Washington Boulevard Park, but the City of Seattle Parks Board of Commissioners did not request any detail drawings (EDAW 1986). Early photographs, postcards, and publications of Lake Washington Boulevard illustrated the Pastoral quality of the boulevard. Beginning in 1909, the boulevard was constructed over several years. A Parks report in the same year described the improvements

on one thousand feet of lake frontage, and stated that a “rip-rap seawall has been constructed for practically the entire distance” (Parks Report 1909). Areas of lawn and deciduous trees flanked the corridor with small groupings of plants. The boulevard was wide enough to accommodate two-way vehicular traffic and a pedestrian trail on the shoreline side. The Olmsted design principles were represented throughout the boulevard. Olmsted’s principle of place was shown by taking advantage of the views of Lake Washington. There was a unified composition represented through a consistent use of tree spacing and lawn. These simple elements, used repeatedly, formed a unified composition throughout the Lake Washington Boulevard corridor. The orchestration of movement and use was visible in the clearly-defined paths and separation of uses. The meandering nature of the boulevard created a unique sequence of views. The opening of the boulevard closely aligned with the Olmsted design principles and the Pastoral Style of design.

There have been changes to Lake Washington Boulevard Park over time, but much of the pleasure drive experience in a Pastoral Style persists. Compared to Seward Park, Lake Washington Boulevard Park contains more of the original Olmsted design principles of place, unified composition, orchestrating of movement and use, and a comprehensive approach. Of their principles, sustainable design may be the one that has been modified the most with residential development, parking along the shoreline, and the removal and topping of trees in the forested bluff. Limited records exist to catalog all the changes along the seven-mile corridor, but the appearance of the park today mostly reflects the original vision of the Olmsted Brothers as a pleasure drive, maximizing the views and connecting parks throughout southeast Seattle.

Lake Washington Boulevard Park Existing Conditions Compared to Olmsted Design Principles

Similar to Seward Park, while there have been a variety of improvements, developments, and additions in Lake Washington Boulevard Park, the design intent for the corridor to be a pleasure drive connecting larger parks still exists today.

Specifically, the proposed UPARR replacement area within the park remains an open area of lawn and deciduous trees, some of which are non-native. These non-native deciduous trees are consistent with trees used by the Olmsteds in other designs. The Olmsted vision for park would have also included drifts of vegetation along the shoreline (NAOP, 2011). The pressure for water access, maintenance, and views has resulted in a rather flat landscape with limited amounts of groundcover or shrubs.

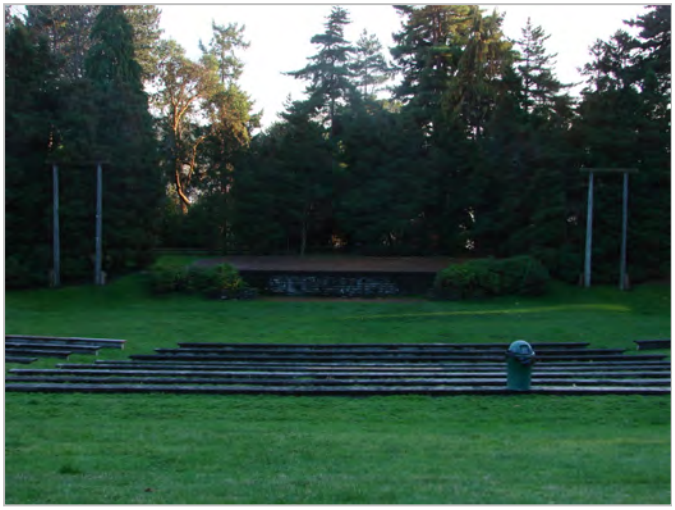
Park Buildings

Seward Park Clay Studio, a vital element in the Northwest's visual arts community since 1969, has been incorporated as a non-profit, educational ceramics institution. Its mission is to promote the growth of the ceramic arts by providing a broad range of educational programs, events, and studio opportunities for artists in a community clay arts facility (Seward Park Clay Studio 2011). As previously mentioned, the Clay Studio also has art activities with mediums other than clay.

Seward Park Environmental and Audubon Center (Center) is a collaborative effort between Audubon Washington and the Seattle Parks, and is part of the National Audubon Society's vision to establish neighborhood nature education centers in urban areas of high ethnic diversity. The Center provides programs for school, youth, and community audiences, and also hosts arts in the environment and special events. The Center includes exhibits, an extensive natural history lending library, a laboratory, and a small gift shop and welcome center. The Center engages people in learning about and caring for nature in their own neighborhoods. Its mission is to inspire exploration, discovery, and stewardship of the natural world through science education and other direct experiences that promote healthy, sustainable communities (Seward Park Environmental and Audubon Center 2011b).

A fish hatchery, which is no longer used (closed in 1978), is also located in the park. In 1935, the fish hatchery was built to increase the stocks of sport fish in Lake Washington to further the Olmsted vision of a water and forest recreational mecca and to turn the area into a fisherman's paradise (Seward Park Environmental and Audubon Center 2011b).

The amphitheater was built in 1953 in the hope that it would replace the band shell removed from Volunteer Park in 1949 and serve as a primary source of outdoor entertainment in Seattle. Set in a gently sloping clearing created by the loss of several trees during a natural storm event, ringed by trees, and with a spectacular view of Mount Rainier on a clear day, it seemed like the ideal location. However, due to lack of adequate parking and other concerns, the last music in the park series was held in 1960 (Seward Park Environmental and Audubon Center 2011b). It is now used during events and festivals in the park such as *Pista Sa Nayon*.



Amphitheater used during events

Park Organizations

In addition to the Clay Studio and Audubon Center discussed above, other organizations and groups take an active interest in, and make use of, Seward Park.

Since 1999, Friends of Seward Park has been working in cooperation with park visitors and Parks to preserve and enhance the following (FSP 2011):

- Solitary pursuits and active recreation.
- Environmental education and park stewardship.
- Forest and lake habitats for wildlife diversity and human enjoyment.

The Friends of Seattle Olmsted Parks is another organization that has been dedicated to the preservation of Seattle's Olmsted heritage, including Seward Park, by raising awareness of the Olmsted philosophy of providing open space for all people (FSOP 2011b).

Other groups or organizations that use or are interested in the Seward Park environment and recreational opportunities are the Seward Stewards, who assist at the Audubon Center as educators, docents, and restoration planters; Audubon Action Seward Park; orienteers; cyclists; runners and triathletes; boaters; wilderness awareness programs; scout and school groups; arborists; fish advocates; and Canada geese activists.

UPARR Grant Funding

The UPARR Act of 1978 established this program to provide funding for rehabilitation of deteriorating parks and recreational facilities in cities and urban counties. The UPARR program is administered by the National Park Service (NPS) of the U.S. Department of the Interior. Cities and counties that accept federal funding under the UPARR program must comply with the terms of the grant agreement, which require the funding recipient to maintain the parks and facilities for public recreational use in perpetuity regardless of the percent of UPARR funds expended relative to the project and the facility as a whole. This provision is contained in the UPARR Program Administration Guideline (NPS-37) and is also referenced in Section 72.36 of the Act.

Seward Park was awarded the following grant-funded improvements in 1983 (NPS 2009):

- Comfort Station Improvements: $46,000 was allocated for improvements at the southern end of Seward Park.
- Picnic Shelter Construction and Repair: $68,000 was allocated for improvements at the southern end of Seward Park.
- Foot Race Starter Area: $5,000 was allocated for improvements at the southwestern corner of Seward Park.
- Swim Raft Replacement: $34,000 was allocated for improvements at the southwestern corner of Seward Park.

UPARR funds were often used for only a portion of a site or facility, or where a small percentage of the funds required to renovate or rehabilitate a property. Despite that fact, recipients of funds for renovation and rehabilitation projects are obligated by the terms of the grant agreement to continually maintain the site or facility as a whole for public recreational use regardless of the size of the UPARR grant. Therefore, the grants listed for Seward Park provide protections for the entire park not only the areas where grant funding was used for improvements.

In accordance with Section 1010 of the UPARR Act and 36 Code of Federal Regulations 72.72, Conversion Requirements, conversion of UPARR grant land can be performed under specific conditions and with the approval of the NPS. A conversion would be approved only if it is found to be in accord with the current local park and recreation Recovery Action Program or equivalent recreational plans, and only upon such conditions as deemed necessary to ensure

the provision of adequate recreational properties and opportunities of reasonably equivalent location and usefulness.

Special Events

The numbers listed below include both events conducted solely within the park and those that use only a portion of the park.

Table C-1. Typical Seward Park Annual Events

Event Name	Start Date	End Date	Start/End Time	Approximate Attendance
Volunteer Event	January 18	January 18	8:00 a.m. to 4:00 p.m.	500
King County Bar Association Fun Run	March 7	March 7	8:00 a.m. to 1:00 p.m.	250
Seattle Collegiate Cycling Criterion Race	March 28	March 28	6:00 a.m. to 1:00 p.m.	150
Seward Park Thursday Night Bike Series[1]	April 1	September 2	4:00 p.m. to 9:00 p.m.	3,300
Beat the Eggs Run/Walk	April 3	April 3	6:00 a.m. to 12:00 p.m.	300
Epiphany School Stewardship Project	April 15	April 15	9:00 a.m. to 2:00 p.m.	275
The Tom Wales Community 5k Run/Walk	April 24	April 24	6:30 a.m. to 11:00 a.m.	400
Northwest National Parks Family Day	May 2	May 2	8:00 a.m. to 6:00 p.m.	2,000
Mother Daughter Fun Run/Walk	May 9	May 9	7:30 a.m. to 11:00 a.m.	200
Boy Scout Overnight Camporee	May 14	May 16	5:00 p.m. on May 14 to 10:00 a.m. on May 16	360
New Balance Girls on the Run 5k	May 22	May 22	5:00 a.m. to 1 p.m.	1,000
WEI Walk for Water	May 23	May 23	10:00 a.m. to 5:30 p.m.	300
Carry 5- Walk for Water	June 5	June 5	10:00 a.m. to 4:00 p.m.	500
Family Bike Event	June 6	June 6	9:00 a.m. to 5:00 p.m.	100
Run/Walk with Pride	June 13	June 13	7:00 a.m. to 12:00 p.m.	350
Walk for Rice	June 19	June 19	6:00 a.m. to 2:00 p.m.	1,200
Furry 5k Fun Run and Walk	June 20	June 20	5:00 a.m. to 3:00 p.m.	3,000
Rock 'n' Roll Marathon	June 25	June 26	5:00 p.m. on June 25 to 8:00 p.m. on June 26	15,000
Public Performance –Julius Caesar	July 7	July 7	3:00 p.m. to 10:30 p.m.	300
Shakespeare in the Park	July 10	July 10	6:00 p.m. to 10:00 p.m.	200
POF Walkathon	July 10	July 10	6:00 a.m. to 2:00 p.m.	300
Shakespeare in the Park	July 11	July 11	6:00 p.m. to 10:00 p.m.	200

Event Name	Start Date	End Date	Start/End Time	Approximate Attendance
Microsoft Intern Day of Caring	July 16	July 16	8:00 a.m. to 3:00 p.m.	300
STP Bicycle Classic	July 17	July 17	4:00 a.m. to 9:00 a.m.	10,000
Seafair Triathlon	July 17	July 18	10:00 a.m. on July 17 to 2:00 p.m. on July 18	2,000
Pista Sa Nayon	July 31	August 2	8:00 a.m. on July 31 to 12:00 p.m. on August 2	30,000
Seafair Hydroplanes and Air Show	August 5	August 8	9:00 p.m. on August 5 to 9:00 p.m. on August 8	300,000
Damascus in the Park	August 14	August 14	6:00 a.m. to 6:00 p.m.	200
Seattle Parks Open Water Swim	August 21	August 21	6:00 a.m. to 2 p.m.	500
Seward Park Season End Classic	August 29	August 29	7:00 a.m. to 6:00 p.m.	300
Stepping Out to Cure Scleroderma	September 11	September 11	8:00 a.m. to 3:30 p.m.	200
Round the Rock Stand Up Paddle Race	September 12	September 12	6:00 a.m. to 6:00 p.m.	300
Sound Steps Walk and Roll	September 15	September 15	7:30 a.m. to 1:30 p.m.	150
Sea-Tac League Cross Country Meet	September 16	September 16	12:30 p.m. to 5:30 p.m.	150
Annual Walk for Sickle Cell	September 18	September 18	8:30 a.m. to 4:00 p.m.	200
Walk to D'feet ALS	October 2	October 2	7:00 a.m. to 1:30 p.m.	1,000
Run of Hope-Brian Tumor Research Fund	October 3	October 3	6:00 a.m. to 2:30 p.m.	2,000
Miles for Midwives	October 9	October 9	7:00 a.m. to 1:00 p.m.	150
Run Vera Run	October 10	October 10	7:00 a.m. to 9 p.m.	1,000
Restoration Day Event	October 15	October 15	7:00 a.m. to 4:00 p.m.	200
Hike and Seek Walk	October 15	October 15	8:00 a.m. to 5:00 p.m.	500
Annual Pumpkin Push 5k Run and Walk	October 30	October 30	5:00 a.m. to 1:00 p.m.	1500
Run Scared 5k	October 31	October 31	7:00 a.m. to 11:00 a.m.	200
2 Million Dogs Puppy Up Walk	November 7	November 7	7:00 a.m. to 1:30 p.m.	300
Seattle Marathon Run/Walk	November 28	November 28	6:00 a.m. to 2:30 p.m.	14,000
New Balance Girls on the Run	December 4	December 4	6:00 a.m. to 1:00 p.m.	1,000

Source: Parks 2010.
2010 events are shown.
[1] Event occurs every Thursday between the months of April and September and accounts for 22 events with approximately 150 attendees per event.

Parking Analysis

Table C-2. On-Street Parking Field Study[1]

Street Name	From	To	On-Street Parking Spaces	Occupied	Percent Occupied
North-South Streets					
Oakhurst Rd S	Seward Park Ave S	Seward Park Ave S	95	5	5%
52nd Ave S	Wilson Ave S	S Mead St	36	4	11%
Wilson Ave S	S Lucile St	S Morgan St	213	29	14%
Hampton Rd S/S Oaklawn Pl	S Eddy St	Dead end	40	8	20%
Seward Park Ave S	S Dawson St	Wilson Ave S	211	45	21%
Lake Shore Dr S	Seward Park Ave S	S Eddy St	81	18	22%
Hampton Rd S	Lake Shore Dr S	S Eddy St	64	16	25%
57th Ave S	North End of Study Limit	S Orcas St	109	30	28%
55th Ave S	North End of Study Limit	S Brandon St	25	8	32%
57th Ave S	Seward Park Ave S	S Warsaw St	44	23	52%
56th Ave S	S Dawson St	Dead end	15	9	60%
55th Ave S	S Orcas St	Wilson Ave S	19	N/A [2]	N/A [2]
East-West Streets					
S Graham St	Wilson Ave S	West End of Study Limit	51	1	2%
S Oakhurst Pl	Oakhurst Rd S	Dead end	22	1	5%
S Eddy St	Dead end	57th Ave S	41	2	5%
S Hawthorn Rd	Seward Park Ave S	Wilson Ave S	77	4	5%
S Upland Rd	S Hawthorn Rd	Wilson Ave S	64	4	6%
S Van Dyke Rd	Hampton Rd S	Seward Park Ave S	16	2	13%
S Morgan St	57th Ave S	West End of Study Limit	29	4	14%
S Orcas St	Lake Washington Blvd S	West End of Study Limit	112	20	18%
S Findlay St	Wilson Ave S	West End of Study Limit	11	3	27%
S Dawson St	Lake Washington Blvd S	57th Ave S	16	5	31%
S Warsaw St	Dead end	53rd Ave S	32	26	81%
S Juneau St	Lake Washington Blvd S	Seward Park Ave S	15	15	100%
Total			1,438	282	20%

1. Data collected on August 18, 2012 from 3:20-5:40pm.
2. No data collected.

Table C-3. Special Event Parking Analysis

	Event Size		
	Small (upper end)	Medium (upper end)	Large (upper end) [1]
Event attendance	299	999	30,000
People per vehicle	2	2	2
Event vehicles	150	500	15,000
On-street parking spaces within half mile - total	1,400	1,400	1,400
On-street parking spaces within half mile - available on peak season non-event day	1,160	1,160	1,160
Temporarily closed parking spaces - total	90	90	90
Temporarily closed parking spaces - % of event vehicles	60%	18%	0.6%
Existing Conditions			
Parking spaces in Seward Park - total	351	351	351
Parking spaces in Seward Park - % for events	50%	50%	50%
Parking spaces in Seward Park - for events	176	176	176
Event vehicles parking in Seward Park	150	176	176
Event vehicles parking in neighborhood	0	324	14,825
On-street parking spaces within half mile - available on peak season event day	1,160	836	-13,665
During Construction			
Parking spaces in Seward Park - total	261	261	261
Parking spaces in Seward Park - % for events	50%	50%	50%
Parking spaces in Seward Park - for events	131	131	131
Event vehicles parking in Seward Park	131	131	131
Event vehicles parking in neighborhood - total	19	369	14,870
Event vehicles parking in neighborhood - additional	19	45	45
On-street parking spaces within half mile - available on peak season event day	1,141	791	-13,710
% increase in event vehicles in neighborhood	n/a	14%	0.3%
Additional event vehicles in neighborhood as % of total on-street parking	1%	3%	3%
Additional event vehicles in neighborhood as % of on-street parking available on peak season event day for existing conditions	2%	5%	-0.3%
Temporarily closed parking spaces as % of on-street parking available on peak season event day for existing conditions	8%	11%	-0.7%

1. Excludes Seafair because Seafair's attendance of 300,000 is not representative of most large events.

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Appendix D Supporting Information for Other Chapters

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Appendix D Supporting Information for Other Chapters

Chapter 5 Cultural Resources

United States Department of the Interior

NATIONAL PARK SERVICE
Pacific West Region
909 First Avenue, Fifth Floor
Seattle, Washington 98104-1060

IN REPLY REFER TO:
SLA 8.A.1
53-CTY-1960-7901, -8301

MAY 21 2012

Andrew Lee
CSO Business Area Manager
Seattle Public Utilities
PO Box 34018
Seattle, WA 98124

Dear Mr. Lee:

As per 36 CFR 800.3(a), the National Park Service (NPS), is proposing an undertaking subject to Section 106 of the National Historic Preservation Act.

In 1979 and 1983, the City of Seattle received Urban Park and Recreation Recovery (UPARR) grants from NPS for recreation improvements at Seward Park. These grants also extended protection to the property under section 1010 of the Urban Park and Recreation Recovery Act (Title X, PL 95-625). Seward Park is a National Register eligible property located at 5895 Lake Washington Boulevard South in the City of Seattle, King County, Washington.

The NPS undertaking consists of removing federal protection from 3,100 square feet at Seward Park at the City's request, and a determination about whether portions of Lake Washington Boulevard Park and planned recreation enhancements meet the mitigation requirements outlined in 36 CFR Part 72 for the recreation impacts to Seward Park.

Enclosed please find a graphic showing the Area of Potential Effect (APE) for this undertaking, depicted by two rectangles outlined and hashed in red and labeled "UPARR Grant Protections Removed". NPS will also be considering indirect effects from this undertaking on the rest of Seward Park. The second APE is the replacement property proposed at Lake Washington Boulevard Park. The NPS undertaking is to add federal protection to that property, but there will be no change in use as it is already managed for public recreation.

NPS has determined that the removal of federal protection from a Register eligible site would constitute an adverse effect to historic properties as a result of the undertaking. There are no practical avoidance alternatives at this location. No potentially eligible built environment resources are present within the area of impact. Seattle Public Utilities has evaluated the subsurface potential for historic properties within this APE and no archaeological properties were identified as a result of their investigation.

Per 36 CFR 800.3, this information is being provided to the State Historic Preservation Officer, the local governments with jurisdiction, the federally recognized Muckleshoot, Tulalip, Snoqualmie, Suquamish and Yakama Indian tribes and the Duwamish Tribe, who may attach religious or cultural significance to properties within the APE. NPS welcomes your recommendations as to further consulting parties entitled

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53-CTY-1960-7901, -8301

to participate in this process. Per 36 CFR 800.6(a)(1), the Advisory Council is also being provided a notification of finding of adverse effect.

We request any comments you may have on the APE identified in the enclosed graphics, and the determination that historic properties will be adversely affected as a result of this undertaking, by no later than June 30th, 2012. As NPS has determined an adverse effect for this undertaking, we also invite your participation in developing a memorandum of agreement to resolve the adverse effect in accordance with 36 CFR 800.6(b). If NPS does not hear from you within that time frame, we'll assume you're not interested in this undertaking.

NPS appreciates your consultation in this process and timely response. Should you have any questions, please contact my staff lead, Heather Ramsay, at (206) 220- 4123 or heather_ramsay@nps.gov.

Sincerely,

for Michael J. Linde
Leader, Community Assistance Programs

Enclosure (3)

cc: Gail Coburn, Manager, Environmental Review & Permitting Section
Seattle Public Utilities

Kathy Robertson, Senior Project Manager
Seattle Public Utilities

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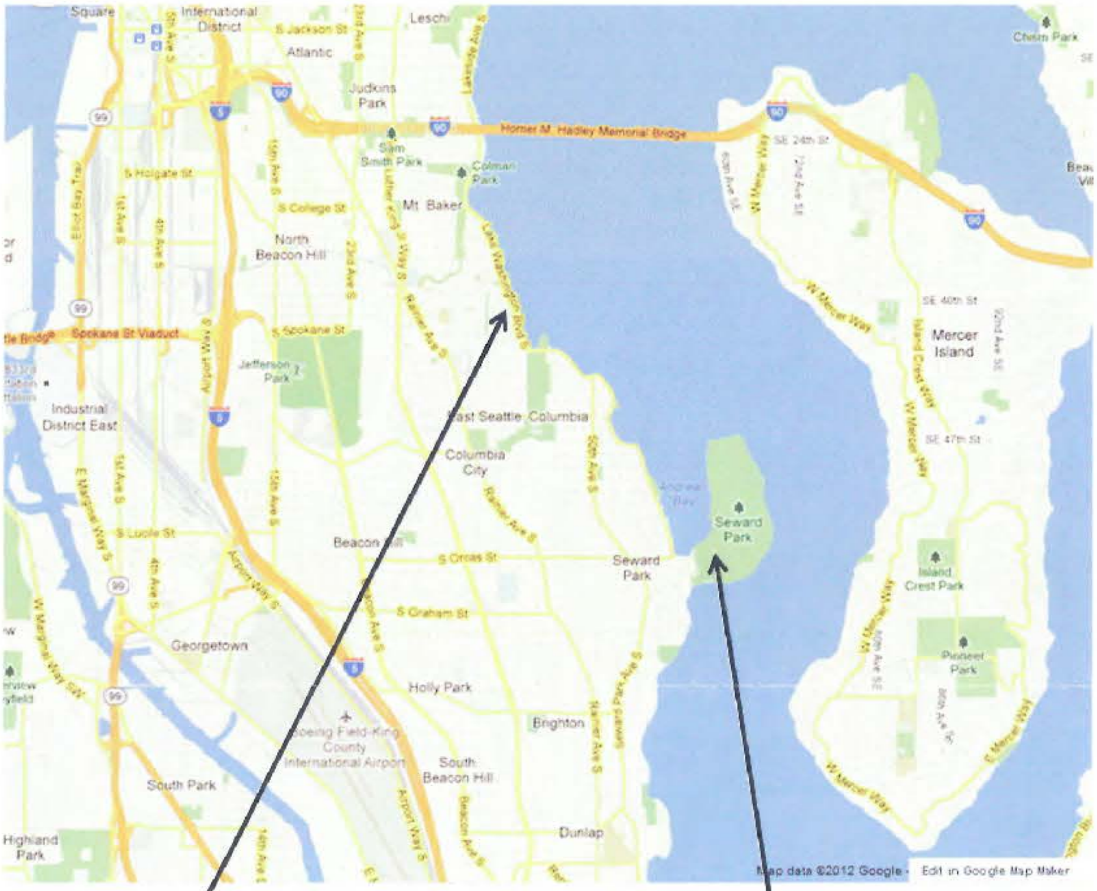
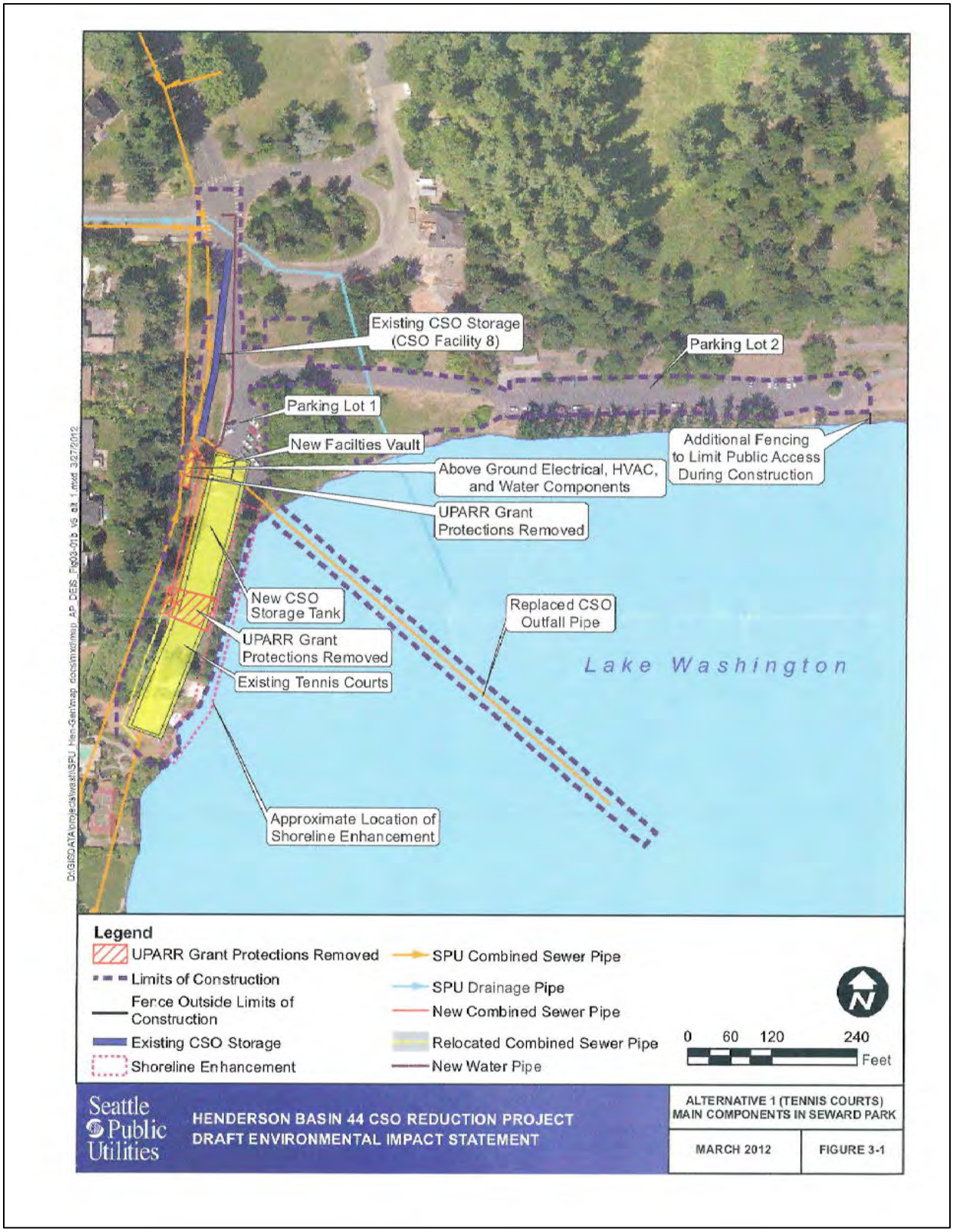


Mitigation for recreation impacts will extend NPS protection to sections of the existing Lake Washington Boulevard Park. It will also include recreation enhancements at both Seward Park and Lake Washington Boulevard Park, TBD.

Partial conversion at Seward Park = loss of NPS protection from 3,100 ft^2


Existing CSO Storage
(CSO Facility 8)
Parking Lot 2
Parking Lot 1
New Facilties Vault
Additional Fencing
to Limit Public Access
During Construction
Above Ground Electrical, HVAC,
and Water Components
UPARR Grant
Protections Removed
New CSO
Storage Tank
Replaced CSO
Outfall Pipe
UPARR Grant
Protections Removed
Existing Tennis Courts
Lake Washington
Approximate Location of
Shoreline Enhancement
Legend
UPARR Grant Protections Removed
Limits of Construction
Fence Outside Limits of
Construction
Existing CSO Storage
Shoreline Enhancement
SPU Combined Sewer Pipe
SPU Drainage Pipe
New Combined Sewer Pipe
Relocated Combined Sewer Pipe
New Water Pipe
0 60 120 240
Feet
N
Seattle
Public
Utilities
HENDERSON BASIN 44 CSO REDUCTION PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
ALTERNATIVE 1 (TENNIS COURTS)
MAIN COMPONENTS IN SEWARD PARK
MARCH 2012
FIGURE 3-1

Vicinity Map
Lake Washington
53RD AVENUE SOUTH
LAKE WASHINGTON BOULEVARD SOUTH
Legend
Upland Landscaping Enhancements
Receiving Transfer of Grant Restrictions
0 25 50 100
Feet
Seattle Public Utilities
HENDERSON BASIN 44 CSO REDUCTION PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
UPARR GRANT TRANSFER AREA
MAIN COMPONENTS
MARCH 2012
FIGURE 3-4

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

June 13, 2012

Ms. Heather Ramsay
NPS
909 First Avenue, 5th Floor
Seattle, WA 98104

In future correspondence please refer to:
Log: 061312-07-NPS
Property: Seward Park UPARR Conversion
Re: APE Concur

Dear Ms. Ramsay:

We have reviewed the materials forwarded to our office for the above referenced project. Thank you for your description of the area of potential effect (APE) for the project. We concur with the definition of the APE. We look forward to the results of your cultural resources survey efforts, your consultation with the concerned tribes, and receiving the survey report. We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4) and the historic property inventory when it is available.

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised.

Thank you for the opportunity to review and comment. If you have any questions, please feel free to contact me.

Sincerely,

Russell Holter
Project Compliance Reviewer
(360) 586-3533
russell.holter@dahp.wa.gov

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past. Shape the Future

Chapter 7 Habitat, Wildlife, and Fish Information

(Begins on next page)

Table D-1. Trees Inventoried in Seward Park Project Area

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
LW Blvd & 49th	Deodora cedar (*Cedrus deodora*)	38		Good	Fair-Good	Moderate-High	Crown clean: prune out deadwood to mitigate hazard conditions.	Yes	5,819	$ 201.00	High	Several large dead limbs. Tree overhangs parking, pedestrian, and road areas.
1	Deodora cedar *(Cedrus deodora)*	27.5		Fair	Fair-Good	Moderate			3,655	$ 169.00	High	
2	European white birch (*Betula pendula)*	16.4		Good	Good	Moderate			1,202	$ 73.00	High	
3	European white birch *(Betula pendula)*	13		Good	Good	Moderate			956	$ 70.00	High	
4	Douglas fir (*Pseudotsuga menzeisii)*	30.2		Good	Good	Moderate	Crown clean to prune out hanging deadwood.	Yes	4,215	$ 185.00	High	Dead branches hung up in crown.
5	Common hawthorn *(Crataegus monogyna)*	10		Good	Fair	Moderate			498	$ 32.00	Moderate-Low	A King County "Weed of Concern". Control is recommended where possible and new plantings are discouraged.
6	Douglas fir *(Pseudotsuga menzeisii)*	17		Good	Good	Moderate			1,695	$ 100.00	High	
7	Douglas fir *(Pseudotsuga menzeisii)*	14.5		Good	Good	Moderate			1,288	$ 84.00	High	Good with adjacent trees. It is suppressed between firs #6 and #8.
8	Douglas fir *(Pseudotsuga menzeisii)*	14.6		Good	Good	Moderate			1,301	$ 85.00	High	
9	Douglas fir *(Pseudotsuga menzeisii)*	7.1		Good	Good	Moderate			400	$ 39.00	High	Strong, young tree.
10	Fruiting apple (*Malus* sp.)	5.5		Fair	Good	Moderate			165	$ 11.00	Moderate	
11	Douglas fir *(Pseudotsuga menzeisii)*	8.5		Good	Good	Moderate			520	$ 47.00	High	Young tree.
12	Douglas fir *(Pseudotsuga menzeisii)*	4		Good	Good	Moderate			152	$ 23.00	High	
13	Douglas fir *(Pseudotsuga menzeisii)*	6		Good	Good	Moderate			305	$ 33.00	High	
14	Scots pine (*Pinus sylvestris)*	13.3		Good	Good	Moderate			1,300	$ 77.00	High	
15	Plum (*Prunus* sp.)	5.5, 4.5		Good	Fair	Moderate			153	$ 17.00	Moderate-High	
16	Douglas fir *(Pseudotsuga menzeisii)*	17.4		Good	Good	Moderate	Crown clean. Minor deadwood.		1,736	$ 103.00	High	

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
17	Douglas fir *(Pseudotsuga menzeisii)*	11.6		Good	Good	Moderate	Crown clean. Minor deadwood.		906	$ 66.00	High	
18	Douglas fir *(Pseudotsuga menzeisii)*	17		Good	Good	Moderate	Crown clean. Minor deadwood.		1,695	$ 100.00	High	
19	Lombardy poplar (*Populus nigra* 'Italica')	11.1		Fair	Fair	Moderate			524	$ 57.00	Moderate	
20	Oregon ash (*Fraxinus latifolia)*	5.2, 7.7, 9.3		Good	Fair	Moderate			825	$ 67.00	Moderate-High	
21	Lombardy poplar (*Populus nigra* 'Italica')	31		Fair	Poor	Moderate-High	Crown clean.	Yes	2,703	$ 152.00	Moderate	Large number of dead branches in the crown.
22	Lombardy poplar (*Populus nigra* 'Italica')	20.5		Fair	Poor	Moderate-High	Crown clean.		1,378	$ 102.00	Moderate	Large number of dead branches in the crown.
23	Lombardy poplar (*Populus nigra* 'Italica')	22.5		Fair	Poor	Moderate-High	Crown clean.		1,549	$ 109.00	Moderate	Large number of dead branches in the crown.
24	Lombardy poplar (*Populus nigra* 'Italica')	21.7		Fair	Poor	Moderate-High	Crown clean.		1,513	$ 107.00	Moderate	Large number of dead branches in the crown.
25	Lombardy poplar (*Populus nigra* 'Italica')	19		Fair	Poor	Moderate-High	Crown clean.		1,226	$ 95.00	Moderate	Large number of dead branches in the crown.
26	Lombardy poplar (*Populus nigra* 'Italica')	23		Fair	Poor	Moderate-High	Crown clean.		1,671	$ 114.00	Moderate	Large number of dead branches in the crown.
27	Lombardy poplar (*Populus nigra* 'Italica')	19.4		Fair	Poor	Moderate-High	Crown clean.		1,267	$ 96.00	Moderate	Large number of dead branches in the crown.
28	Lombardy poplar (*Populus nigra* 'Italica')	19.5		Fair	Poor	Moderate-High	Crown clean.		1,277	$ 97.00	Moderate	Large number of dead branches in the crown.
29	Lombardy poplar (*Populus nigra* 'Italica')	17.1		Fair	Poor	Moderate-High	Crown clean.		1,034	$ 86.00	Moderate	Large number of dead branches in the crown.
30	Lombardy poplar (*Populus nigra* 'Italica')	18.4		Fair	Poor	Moderate-High	Crown clean.		1,166	$ 92.00	Moderate	Large number of dead branches in the crown.
31	Lombardy poplar (*Populus nigra* 'Italica')	19.5		Fair	Poor	Moderate-High	Crown clean.		1,277	$ 97.00	Moderate	Large number of dead branches in the crown.
32	Lombardy poplar (*Populus nigra* 'Italica')	18.7		Fair	Poor	Moderate-High	Crown clean		1,196	$ 93.00	Moderate	Large number of dead branches in the crown.
33	Lombardy poplar (*Populus nigra* 'Italica')	17		Fair	Poor	Moderate-High	Crown clean.		1,024	$ 85.00	Moderate	Large number of dead branches in the crown.
34	Lombardy poplar (*Populus nigra* 'Italica')	19.2		Fair	Poor	Moderate-High	Crown clean.		1,246	$ 96.00	Moderate	Large number of dead branches in the crown.

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
35	Lombardy poplar (*Populus nigra* 'Italica')	17.7		Fair	Poor	Moderate-High	Crown clean.		1,095	$ 89.00	Moderate	Large number of dead branches in the crown.
36	Lombardy poplar (*Populus nigra* 'Italica')	19.2		Fair	Poor	Moderate-High	Crown clean.		1,246	$ 96.00	Moderate	Large number of dead branches in the crown.
37	Lombardy poplar (*Populus nigra* 'Italica')	21.3		Fair	Poor	Moderate-High	Crown clean.		1,465	$ 105.00	Moderate	Large number of dead branches in the crown.
38	Lombardy poplar (*Populus nigra* 'Italica')	21		Fair	Poor	Moderate-High	Crown clean.		1,428	$ 104.00	Moderate	Large number of dead branches in the crown.
39	Lombardy poplar (*Populus nigra* 'Italica')	26.5		Fair	Poor	Moderate-High	Crown clean.		2,095	$ 131.00	Moderate	Large number of dead branches in the crown.
40	Lombardy poplar (*Populus nigra* 'Italica')	25.2		Fair	Poor	Moderate-High	Crown clean.		1,938	$ 125.00	Moderate	Large number of dead branches in the crown.
41	Insence cedar (*Calocedrus decurrens*)	8		Good	Good	Low			72	$ 8.00	High	
42	Wych elm (*Ulmus glabra)*	27.3		Fair-Good	Fair-Good	Moderate		Yes	3,575	$ 197.00	High	Rare. One of five known trees of this species in Seattle.
43	Purple-leaf sycamore maple (*Acer pseudoplatanus* 'Atropurpureum'	17.2		Fair-Good	Fair-Good	Moderate			1,603	$ 102.00	High	Adjacent to parking area. One-sided with adjacent trees.
44	London plane (Platanus x acerifolia)	35		Fair-Poor	Good	Moderate-High	Crown clean.	Yes	3,529	$ 162.00	Moderate-High	Heavy anthracnose infection.
45	London plane (Platanus x acerifolia)	41.5		Fair	Good	Moderate-High		Yes	4,032	$ 156.00	High	smoother texture than trees with heavy infestation. Possibly a different form tree.
46	Catalpa (*Catalpa* sp.)	5.4		Poor	Poor	High			n/a	n/a	Low	Near dead. Extensive deadwood along trunk.
47	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	9.5		Fair	Fair	Moderate			205	$ 22.00	Moderate	Minor evidence of cherry bark tortrix.
48	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	12.9		Fair	Fair	Moderate			357	$ 34.00	Moderate	
49	London plane (Platanus x acerifolia)	30.7		Good	Good	Moderate		Yes	2,964	$ 147.00	High	Moderate anthracnose. Bark has smoother texture than trees with heavy infestation. Possibly a different form tree.
50	London plane (Platanus x acerifolia)	28.3		Fair	Good	Moderate			2,636	$ 138.00	Moderate-High	Heavy anthracnose infection.

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
51	London plane (Platanus x acerifolia)	26.7		Good	Good	Moderate			2,418	$ 132.00	High	Moderate anthracnose. Bark has smoother texture than trees with heavy infestation. Possibly a different form tree.
52	London plane (Platanus x acerifolia)	28.7		Good	Good	Moderate			2,691	$ 140.00	High	Moderate anthracnose. Bark has smoother texture than trees with heavy infestation. Possibly a different form tree.
53	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	15.6		Good	Good	Moderate			485	$ 45.00	High	
54	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	10.7		Fair-Good	Good	Moderate			258	$ 26.00	Moderate-High	Fair amount of cherry bark tortrix present. Very large old pruning wound where understock was pruned back.
55	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	11.2		Good	Fair-Good	Moderate			281	$ 28.00	Moderate	Leans out toward lawn area.
56	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	14		Good	Fair	Moderate			406	$ 38.00	Moderate	Scaffold branches tightly twisted around each other and the main trunk.
57	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	5		Fair-Good	Good	Moderate			67	$ 8.00	Moderate	
58	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	9.7		Fair-Good	Good	Moderate			213	$ 22.00	Moderate	
59	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	7		Poor	Poor	High	Remove.		n/a	n/a	None	Near dead with extensive trunk decay.
60	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	7		Fair	Poor	High	Remove.		n/a	n/a	None	In advanced decline with trunk decay.
61	Tulip tree (*Liriodendron tulipifera*)	7		Good	Poor	Moderate-High			240	$ 32.00	Low	Extreme girdling roots. Leans heavily to the north.
62	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	7		Good	Poor	Moderate			124	$ 14.00	Moderate-Low	Old basal wound, lower trunk defects and decay.
63	London plane (Platanus x acerifolia)	21.6		Fair-Good	Good	Moderate			1,728	$ 109.00	High	smoother texture than trees with heavy infestation. Possibly a different form tree.
64	London plane (Platanus x acerifolia)	31.5		Good	Fair	Moderate		Yes	3,073	$ 151.00	Moderate	smoother texture than trees with heavy infestation. Possibly a different form

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
65	Oregon ash (*Fraxinus latifolia*)	23.4		Fair-Good	Fair	High	Monitor. Prune to mitigate limb defects.		2,192	$ 118.00	Moderate	History of limb failure. Large lateral limb extending south has defects that could lead to failure.
66	London plane (Platanus x acerifolia)	32.7		Good	Good	Moderate			3,237	$ 155.00	High	
67	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	5		Fair	Fair	Moderate			n/a	n/a	Low	Supressed. One-sided. Basal suckers.
68	London plane (Platanus x acerifolia)	34.5		Good	Good	Moderate			3,467	$ 160.00	High	Less anthracnose infection than the other London plane. Bark has smoother texture. Possibly different form than the others.
69	Western red cedar (*Thuja plicata*)	4		Good	Good	Moderate			152	$ 23.00	High	Mower damage to lower trunk.
70	Eastern arborvitae (*Thuja occidentalis* cv.)	5		Good	Good	Moderate			218	$ 28.00	High	
71	Eastern arborvitae (*Thuja occidentalis* cv.)	10		Good	Good	Moderate			463	$ 31.00	High	
72	Eastern arborvitae (*Thuja occidentalis* cv.)	12		Good	Good	Moderate			959	$ 69.00	High	
73	Eastern arborvitae (*Thuja occidentalis* cv.)	4, 9		Good	Good	Moderate			695	$ 56.00	High	
74	Douglas fir (*Pseudotsuga menzeisii*)	6		Good	Fair	Moderate			305	$ 33.00	Low	Weak leader. Planted too deep.
75	Kwanzan cherry (*Prunus serrulata* 'Kwanzan'	13		Good	Good	Moderate			361	$ 35.00	High	
76	Garry oak (*Quercus garryana*)	16.8		Fair-Good	Fair	Moderate			1,464	$ 72.00	High	
77	Tulip tree (*Liriodendron tulipifera*)	7.7		Good	Fair-Good	Moderate			281	$ 36.00	Moderate	Leans to the north. Poorly formed leader.
78	Pacific madrone (*Arbutus menzeisii*)	8		Fair	Fair	Moderate		Yes	521	$ 39.00	Moderate	Heavy canker infection. Suppressed by adjacent tulip tree.
79	White poplar (*Populus alba*)	7, 12.3		Good	Good	Moderate			746	$ 71.00	Moderate-High	Young tree.
80	White poplar (*Populus alba*)	66" at 2 feet		Good	Poor-Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4,772	$ 212+	Moderate-High	Large, multiple trunks above 2-feet. Slime flux on some trunks.

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
81	White poplar (*Populus alba*)	46.6		Fair-Good	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4,772	$ 212+	Moderate-Low	Slime flux at old pruning wounds.
82	White poplar (*Populus alba*)	38		Fair-Good	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	3,713	$ 184.00	Moderate-Low	Slime flux on trunk. Die back on branch leaders.
83	White poplar (*Populus alba*)	41.8		Fair	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4,287	$ 199.00	Moderate-Low	Slime flux on trunk.
84	White poplar (*Populus alba*)	30		Fair	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	2,556	$ 148.00	Moderate-Low	
85	White poplar (Populus alba)	25.7		Fair	Good	Moderate-High	Crown clean for large deadwood and hangers. Parks staff notified 6/17/11.		1,998	$ 127.00	Moderate-Low	High level of deadwood in the crown.
86	White poplar (Populus alba)	24.7		Fair	Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.		1,877	$ 122.00	Moderate-Low	High level of deadwood in the crown.
87	White poplar (*Populus alba*)	27.5		Fair	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.		2,224	$ 136.00	Moderate-Low	Extensive dieback in the crown.
88	White poplar (*Populus alba*)	23		Fair	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.		1,671	$ 114.00	Moderate-Low	Some larger dead limbs with deteriorating wood.
89	White poplar (*Populus alba*)	28		Fair	Fair-Good	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.		2,293	$ 138.00	Moderate-Low	Extensive dieback in the crown.
90	White poplar (*Populus alba*)	19		Fair	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.		1,226	$ 95.00	Moderate-Low	Extensive dieback in the crown.
91	White poplar (*Populus alba*)	45		Fair	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4,772	$ 212.00	Moderate-Low	Extensive dieback in the crown.
92	White poplar (*Populus alba*)	35		Fair	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	3,271	$ 171.00	Moderate-Low	Extensive dieback in the crown.

Tree #	Species	dbh (in.)	CRZ	Vigor	Structure	Risk of Failure	Maintenance Recommendation	Exceptional	Stormwater est. gals/year	General benefits	Preservation Value	Comments/Defects
93	White poplar (*Populus alba)*	47.5		Fair-Good	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4772+	$ 212+	Moderate-Low	Extensive dieback in the crown.
94	White poplar (*Populus alba)*	55		Fair-Good	Fair	Moderate-High	Crown clean for large deadwood. Parks staff notified 6/17/11.	Yes	4772+	$ 212+	Moderate-Low	Some dead wood in the crown.
95	Catalpa (*Catalpa* sp.)	10, 6		Poor	Poor	Moderate-High			n/a	n/a	Low	In decline.

DEFINITIONS AND NOTES:

(1) **d.b.h.** = Diameter at breast height (approximately 4.5 ft. above surface grade).

(2) **Vigor** = Health based on size and color of leaf or needle and length of growth.

(3) **Structure** = Trunk and branch development and its estimated susceptibility to failure.

(4) **Risk of Failure** = The estimate of tree or limb stability based on its present condition.

Low = Little if any danger of failure at this time.

Moderate = Conditions observed show potential failure in extreme conditions.

High = Low vigor, poor crown to height ratio, root damage or structural defect make potential for failure high in near future.

Extreme = Conditions warrant that tree is in eminent danger of failure. Remove immediately.

(5) **Maintenance Recommendations Explanation**: These recommendations are based on the condition of the trees as they are now.

(a) Crown Clean = Selective removal of one or more of the following items: dead, dying, diseased, weak branches, and watersprouts from a tree's crown.

(b) Crown Thin = Selective removal of branches to increase light penetration, air movement, and reduce end weight.

(c) Crown Raise = Selective removal of lower branches of the tree in order to provide clearance.

(d) Crown Reduction = Reduction in size or height of tree by pruning away height or width. Arborist must be knowledgeable of the ability of the species to sustain this type of pruning.

(e) Crown Restoration = Pruning to improve the structure, form, and appearance of trees that have been severely headed, vandalized, or storm damaged.

(f) Cable and/or Brace = Cabling and/or Bracing would decrease the potential risk of failure, but not eliminate the possibility.

(g) Remove = The high to extreme risk of failure warrants that the tree shall be removed immediately.

(h) Create Wildlife Snag = Danger trees cut to wildlife snags provide perching, nesting, and a source of food for birds and other wildlife.

(l) Monitor = These are trees of a particular species or condition that may be prone to more rapid decline than other trees. These trees should be inspected at least annually for changing conditions.

(6) **Preservation Value Explanation**:

LOW = Poor specimen
MODERATE = Common species with minimal character.
HIGH = Good character tree, save if possible.
SPECIAL = Unique species, save if possible.

(7) **Exceptional:** Trees which meet the standards for this designation as defined by Seattle DPD Director's Rule 16-2008:
"Exceptional tree" means a tree or group of trees that because of its unique historical, ecological, or aesthetic value constitutes an important community resource, and is determined as such by the Director according to standards and proceedures promulgted by the Department of Planning and Development."

(8) **Stormwater estimate** = gallons of water intercepted per year, as calculated with the National Tree Benefits Calculator at www.treebenefits.org. Figures provided as an initial approximation of tree benefit contributions.

(9) **Overall benefits** = combined benfits values for stormwater, electricity, air quality, property value, natural gas and CO2, as calculated with the National Tree Benefits Calculator at www.treebenefits.org. Figures provided as an initial approximation of tree benefit contributions.

(10) **PRUNING NOTE:** Pruning shall be performed by an ISA Certified Arborist with proven knowledge and ability using ANSI A300 Pruning Specifications. The actual work should be bid by companies qualified to do the work.

(11) **Comments Explanation**:

(a) Included Bark = Junction just below two branches where bark ridge is curled inward towards center of tree creating high probability of failure.

(b) Critical Rootzone (CRZ) = A circular area under a tree to be protected from construction activities. This area is equal to 1 ft. radius for every 1 in. diameter of tree measured at 4.5 ft. above ground.

Table D-2. Trees Identified as Exceptional Trees in the Seward Park Project Area

Tree No.[1]	Common Name	Scientific Name	Diameter in inches at Breast Height (dbh)
4	Douglas fir	*Pseudotsuga menzeisii*	30.2
21	Lombardy poplar	*Populus nigra 'Italica'*	31
42	Wych elm	*Ulmus glabra*	27.3
44	London plane	*Planatus* x *acerifolia*	35
45	London plane	*Planatus* x *acerifolia*	41.5
49	London plane	*Planatus* x *acerifolia*	30.7
64	London plane	*Planatus* x *acerifolia*	31.5
78	Pacific madrone	*Arbutus menzeisii*	8
80	White poplar	*Populus alba*	66 at 2'
81	White poplar	*Populus alba*	46.6
82	White poplar	*Populus alba*	38
83	White poplar	*Populus alba*	41.8
84	White poplar	*Populus alba*	30
91	White poplar	*Populus alba*	45
92	White poplar	*Populus alba*	35
93	White poplar	*Populus alba*	47.5
94	White poplar	*Populus alba*	55

[1] Seward Park Tree Inventory (Urban Forestry Services, Inc. 2011) tree identifier

Table D-3. Birds Observed in the Seward Park Study Area

Common Name	Scientific Name	Location(s) Bird Observed in Study Area [4]
Barn swallow	*Hirundo rustica*	Flying over water/near shoreline
Cliff swallow	*Petrochelidon pyrrhonota*	Flying over water/near shoreline
American crow	*Corvus brachyrhynchos*	In trees/flying overhead
American robin	*Turdus migratorius*	Landscape Shrub
Great blue heron	*Ardea herodias*	On lake/on top of dock cover at western end of study area
Osprey[1]	*Pandion haliaetus*	Flying over water
Gull	*Larus* species	In water/on top of dock cover at western end of study area
Common merganser	*Mergus merganser*	On lake
Mallard	*Anas platyrhynchos*	On lake
Gadwall	*Anas strepera*	On lake
Muscovy duck	*Cairina moschata*	On lake
House sparrow	*Passer domesticus*	In shrubs
Woodpecker	*Picoides* species	In shrubs
Anna's Hummingbird	*Calypte anna*	In shrubs
Canada goose	*Branta canadensis*	On lake/walking onto grass from lake
Northern flicker	*Colaptes auratus*	In shrubs
Bald eagle[2,3]	*Haliaeetus leucocephalus*	Outside of study area/perched on conifer tree facing lake, soaring overhead

[1] Osprey is designated a State Monitor species by Washington State. State Monitor species are not considered Species of Concern, but are monitored for status and distribution. They are managed by the WDFW, as needed, to prevent them from becoming endangered, threatened, or sensitive.

[2] The bald eagle is a federal species of concern and under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS).

[3] The bald eagle is designated as a Species of Concern (i.e., state sensitive) by Washington State.

[4] Date of observation: June 15, 2011

Table D-4: Fish Known to Occur in Lake Washington

Common Name	Scientific Name
Coho salmon	*Oncorhynchus kisutch*
Sockeye salmon (migratory)	*Oncorhynchus nerka*
Kokanee (resident)	*Oncorhynchus nerka*
Chinook salmon	*Oncorhynchus tshawytscha*
Steelhead trout (migratory)	*Oncorhynchus mykiss*
Rainbow trout (resident)	*Oncorhynchus mykiss*
Coastal Cutthroat trout	*Oncorhynchus clarki*
Bull trout	*Salvelinus confluentus*
Peamouth	*Mylocheilus caurinus*
Northern pikeminnow	*Ptychocheilus oregonensis*
Largescale sucker	*Catostomus macrocheilus*
Longfin smelt	*Spirinchus taleichthys*
Brown bullhead*	*Ictalurus nebulosus*
Threespine stickleback	*Gasterosteus aculeatus*
Rocky Mountain whitefish	*Prosopium williamsoni*
Pumpkinseed*	*Lepomis gibbosus*
Redside shiner	*Richardsonius balteatus*
Common carp*	*Cyprinus carpio*
Smallmouth bass*	*Micropterus dolomeiui*
Largemouth bass*	*Micropterus salmoides*
Tench*	*Tinca tinca*
Bluegill*	*Lepomis macrocheilus*
Black crappie*	*Pomoxis nigromaculatus*
White crappie*	*Pomoxis annularis*
Yellow perch*	*Perca flavescens*
Coastrange sculpin	*Cottus aleuticus*
Prickly sculpin	*Cottus asper*
Riffle sculpin	*Cottus gulosus*
Pacific lamprey	*Entosphenus tridentatus*
River lamprey	*Lampetra fluviatilis*

Source: Wydoski 1972, Paron and Nelson 2001, Wydoski and Whitney 2003

* Fish denoted with an asterisk are non-native species.

Table D-5. Seward Park Trees Removed by the Construction of Tennis Courts Alternative

Tree No.[1]	Common Name	Scientific Name	Diameter in inches at Breast Height (dbh)	Location in Relationship to CSO Storage Tank
1	Deodar cedar	*Cedrus deodara*	38	North end
2	European white birch	*Betula pendula*	27.5	West side
3	European white birch	*Betula pendula*	16.4	West side
4*	Douglas fir	*Pseudotsuga menzeisii*	30.2	West side
5	Common hawthorn	*Crataegus monogyna*	10	West side
6	Douglas fir	*Pseudotsuga menzeisii*	17	West side
7	Douglas fir	*Pseudotsuga menzeisii*	14.5	West side
8	Douglas fir	*Pseudotsuga menzeisii*	14.6	West side
9	Douglas fir	*Pseudotsuga menzeisii*	7.1	South end
10	Fruiting apple	*Malus* sp.	5.5	South end
11	Douglas fir	*Pseudotsuga menzeisii*	8.5	South end
12	Douglas fir	*Pseudotsuga menzeisii*	4	South end
13	Douglas fir	*Pseudotsuga menzeisii*	6	South end
14	Scots pine	*Pinus sylvestris*	13.3	South end
15	Plum	*Prunus* sp.	5.5, 4.5	South end
16	Douglas fir	*Pseudotsuga menzeisii*	17.4	South end
17	Douglas fir	*Pseudotsuga menzeisii*	11.6	South end
18	Douglas fir	*Pseudotsuga menzeisii*	17	South end
19	Lombardy poplar	*Populus nigra* 'Italica'	11.1	South end
20	Oregon ash	*Fraxinus latifolia*	5.2,7.7, 9.3	South end
21*	Lombardy poplar	*Populus nigra* 'Italica'	31	Shore side
22	Lombardy poplar	*Populus nigra* 'Italica'	20.5	Shore side
23	Lombardy poplar	*Populus nigra* 'Italica'	22.5	Shore side
24	Lombardy poplar	*Populus nigra* 'Italica'	21.7	Shore side
25	Lombardy poplar	*Populus nigra* 'Italica'	19	Shore side
26	Lombardy poplar	*Populus nigra* 'Italica'	23	Shore side
27	Lombardy poplar	*Populus nigra* 'Italica'	19.4	Shore side
28	Lombardy poplar	*Populus nigra* 'Italica'	19.5	Shore side
29	Lombardy poplar	*Populus nigra* 'Italica'	17.1	Shore side
30	Lombardy poplar	*Populus nigra* 'Italica'	18.4	Shore side
31	Lombardy poplar	*Populus nigra* 'Italica'	19.5	Shore side
32	Lombardy poplar	*Populus nigra* 'Italica'	18.7	Shore side

Tree No.[1]	Common Name	Scientific Name	Diameter in inches at Breast Height (dbh)	Location in Relationship to CSO Storage Tank
33	Lombardy poplar	*Populus nigra* 'Italica'	17	Shore side
34	Lombardy poplar	*Populus nigra* 'Italica'	19.2	Shore side
35	Lombardy poplar	*Populus nigra* 'Italica'	17.7	Shore side
36	Lombardy poplar	*Populus nigra* 'Italica'	19.2	Shore side
37	Lombardy poplar	*Populus nigra* 'Italica'	21.3	Shore side
38	Lombardy poplar	*Populus nigra* 'Italica'	21	Shore side
39	Lombardy poplar	*Populus nigra* 'Italica'	26.5	Shore side
40	Lombardy poplar	*Populus nigra* 'Italica'	25.2	Shore side
41	Incense cedar	*Calocedrus decurrens*	8	Shore side
59	Kwanzan cherry	*Prunus serrulata 'Kwanzan'*	7	Staging area
60	Kwanzan cherry	*Prunus serrulata 'Kwanzan'*	7	Staging area

[1] Seward Park Tree Inventory (Urban Forestry Services, 1nc. 2011) tree identifier
* Per City of Seattle DPD Director's Rule 16-2008, tree meets the definition of an "exceptional tree" (Urban Forestry Services, Inc. 2011)

Table D-6. Seward Park Trees Removed by the Construction of Parking Lot Alternative

Tree No.[1]	Common Name	Scientific Name	Diameter in inches at Breast Height (dbh)	Location in Relationship to CSO Storage Tank
48	Kwanzan cherry	*Prunus serrulata* 'Kwanzan'	12.9	Staging area
56	Kwanzan cherry	*Prunus serrulata 'Kwanzan'*	14	Further north
59	Kwanzan cherry	*Prunus serrulata 'Kwanzan'*	7	Staging area
60	Kwanzan cherry	*Prunus serrulata 'Kwanzan'*	7	Staging area
61	Tulip tree	*Liriodendron tulipifera*	7	Park side
62	Kwanzan cherry	*Prunus serrulata* 'Kwanzan'	7	Park side
63	London plane	*Platanus* x *acerifolia*	21.6	Park side
64*	London plane	*Platanus* x *acerifolia*	31.5	Park side
66	London plane	*Platanus* x *acerifolia*	32.7	Park side
67	Kwanzan cherry	*Prunus serrulata* 'Kwanzan'	5	Park side
79	White poplar	*Populus alba*	7, 12.3	East end
80*	White poplar	*Populus alba*	66 at 2'	Shore side
81*	White poplar	*Populus alba*	46.6	Shore side
82*	White poplar	*Populus alba*	38	Shore side
83*	White poplar	*Populus alba*	41.8	Shore side
84*	White poplar	*Populus alba*	30	Shore side
85	White poplar	*Populus alba*	25.7	Shore side
86	White poplar	*Populus alba*	24.7	Shore side
87	White poplar	*Populus alba*	27.5	Shore side
88	White poplar	*Populus alba*	23	Shore side
89	White poplar	*Populus alba*	28	Shore side
90	White poplar	*Populus alba*	19	Shore side
91*	White poplar	*Populus alba*	45	Shore side
92*	White poplar	*Populus alba*	35	Shore side
93*	White poplar	*Populus alba*	47.5	Shore side
94*	White poplar	*Populus alba*	55	Shore side

[1] Seward Park Tree Inventory (Urban Forestry Services, 1nc. 2011) tree identifier
* Per City of Seattle DPD Director's Rule 16-2008, tree meets the definition of an "exceptional tree" (Urban Forestry Services, Inc. 2011)

Table D-7. Traffic Modeling - Existing Conditions

Potential Route	Intersection (West to East)	Control Type	LOS	Control Delay[1] (seconds/vehicle)
1	South Orcas Street / Rainier Avenue South	Signalized	B	10.8
	South Orcas Street / Wilson Avenue South	All-way stop	B	14.5
	South Orcas Street / Seward Park Avenue South	Two-way stop	B	10.1
2	South Genesee Street / Rainier Avenue South	Signalized	C	23.6
	South Genesee Street / 50th Avenue South	All-way stop	C	23.4
	Lake Washington Boulevard South / South Genesee Way	One-way stop	B	10.2
1 and 2	Lake Washington Boulevard / South Orcas Street	One-way stop	B	10.3
	Lake Washington Boulevard / South Juneau Street	All-way stop	A	9.4

[1] "Control delay" is a measure of the delay attributable to traffic controls (stop signs and signals). For the one-way stop-controlled intersection, the reported delay is for only one movement—the movement experiencing the worst control delay. For the all-way stop-controlled intersections, the reported delay is for the intersection as a whole. For the two-way stop-controlled intersection, the worst control delay (eastbound) is reported.

Table D-8. Traffic Modeling – Projections for Potential Construction Routes

Intersection		Control Type[1]	Existing Conditions		During Construction		Increase in Delay (sec/vehicle)
			LOS	Delay[2] (sec/vehicle)	LOS	Delay[2] (sec/vehicle)	
Route 1	South Orcas Street / Rainier Avenue South	Signalized	B	10.8	B	11.6	0.8
	South Orcas Street / Wilson Avenue South	AWSC	B	14.5	C	15.2	0.7
	South Orcas Street / Seward Park Avenue South	TWSC	B	10.1	B	10.5	0.4
Route 2	South Genesee Street / Rainier Avenue South	Signalized	C	23.6	C	24.7	1.1
	South Genesee Street / 50th Avenue South	AWSC	C	23.4	D	26.9	3.5
	Lake Washington Boulevard South / South Genesee Way[3]	OWSC	B	10.2	B	10.3	0.1
Routes 1 & 2	Lake Washington Boulevard South / South Orcas Street[3]	OWSC	B	10.3	B	10.3	0.0
	Lake Washington Boulevard South & South Juneau Street	AWSC	A	9.4	A	9.8	0.4

[1] OWSC = One-way stop-controlled intersection; TWSC = Two-way stop-controlled intersection; AWSC = All-way stop-controlled intersection

[2] "Control delay" is a measure of the delay attributable to traffic controls (stop signs and signals). For the one-way stop-controlled intersection, the reported delay is for only one movement - the movement experiencing the worst control delay. For the all-way stop-controlled intersections, the reported delay is for the intersection as a whole. For the two-way stop-controlled intersection, the worst control delay (eastbound) is reported.

[3] The worst control delay of the eastbound movement is reported.

Table D - 9 – Greenhouse Gas Emissions Part 1

Tennis Courts Alternative

Section I: Buildings						
			Emissions Per Unit or Per Thousand Square Feet ($MTCO_2e$)			
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Embodied	Energy	Transportation	Lifespan Emissions ($MTCO_2e$)
Single-Family Home			98	672	792	0
Multi-Family Unit in Large Building			33	357	766	0
Multi-Family Unit in Small Building			54	681	766	0
Mobile Home			41	475	709	0
Education			39	646	361	0
Food Sales			39	1541	282	0
Food Service			39	1994	561	0
Health Care Inpatient			39	1938	582	0
Health Care Outpatient			39	737	571	0
Lodging			39	777	117	0
Retail (Other than Mall)			39	577	247	0
Office			39	723	588	0
Public Assembly			39	733	150	0
Public Order and Safety			39	899	374	0
Religious Worship			39	339	129	0
Service			39	599	266	0
Warehouse and Storage			39	352	181	0
Other - Storage Tank		22.5	39	1278	257	35420
Other - Outfall						19
					TOTAL Section I Buildings	35,439
Section II: Pavement						
						Emissions ($MTCO_2e$)
			Multiplier (MTCO2e/1,000 sf)			0
Pavement (sidewalk, asphalt patch)		9.8	50			490
					TOTAL Section II Pavement	490
Section III: Construction						
(See detailed calculations below)						Emissions ($MTCO_2e$)
					TOTAL Section III Construction	2,290
Section IV: Operations and Maintenance						
(See detailed calculations on previous page)						Emissions ($MTCO_2e$)
					TOTAL Section IV Operations and Maintenance	6
					TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT ($MTCO_2e$)	38,225

Parking Lot Alternative

Section I: Buildings						
			Emissions Per Unit or Per Thousand Square Feet ($MTCO_2e$)			
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Embodied	Energy	Transportation	Lifespan Emissions ($MTCO_2e$)
Single-Family Home			98	672	792	0
Multi-Family Unit in Large Building			33	357	766	0
Multi-Family Unit in Small Building			54	681	766	0
Mobile Home			41	475	709	0
Education			39	646	361	0
Food Sales			39	1541	282	0
Food Service			39	1994	561	0
Health Care Inpatient			39	1938	582	0
Health Care Outpatient			39	737	571	0
Lodging			39	777	117	0
Retail (Other than Mall)			39	577	247	0
Office			39	723	588	0
Public Assembly			39	733	150	0
Public Order and Safety			39	899	374	0
Religious Worship			39	339	129	0
Service			39	599	266	0
Warehouse and Storage			39	352	181	0
Other - Storage Tank		22.5	39	1278	257	35420
Other - Outfall						19
					TOTAL Section I Buildings	35,439

Section II: Pavement				
				Emissions ($MTCO_2e$)
			Multiplier (MTCO2e/1,000 sf)	0
Pavement (sidewalk, asphalt patch)		34.2	50	1710
			TOTAL Section II Pavement	1,710

Section III: Construction	
(See detailed calculations below)	Emissions ($MTCO_2e$)
TOTAL Section III Construction	2,290

Section IV: Operations and Maintenance	
(See detailed calculations on previous page)	Emissions ($MTCO_2e$)
TOTAL Section IV Operations and Maintenance	6

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT ($MTCO_2e$)	39,445

Table D - 10 – Greenhouse Gas Emissions Part 2

Section III: Construction Details							
Construction: Diesel							
Equipment	**Diesel (gallons)**	**Assumptions**					
Semi Truck (Standard Engine w/ Flatbed)	920	92	round trips*	50	miles/round trip*	0.2	gallon/miles
Dump Truck (w/ Pup Trailer)	28,900	2890	round trips*	50	miles/round trip*	0.2	gallon/miles
Concrete Truck, Standard Rear Barrel, 9 CY	24,200	2420	round trips*	50	miles/round trip*	0.2	gallon/miles
Service/Work Truck/Van, Standard	16,513	3963	round trips*	50	miles/round trip*	0.08	gallon/miles
On-Site Generator,100 KW	4,752	198	equivalent days*	6	hr/day*	4	gallons/hr
Concrete Pump, Trailer Mounted, 60 HP	6,737	401	equivalent days*	6	hr/day*	2.8	gallons/hr
Drill Rig, Crane Mounted, Vertical, 190 HP	1,539	45	equivalent days*	6	hr/day*	5.7	gallons/hr
Excavator, CAT 350, 286 HP	33,618	431	equivalent days*	6	hr/day*	13.0	gallons/hr
Excavator with Roadheader, CAT 350, 286 HP	10,764	138	equivalent days*	6	hr/day*	13.0	gallons/hr
Bulldozer with Ripper, D10T, 580 HP	17,556	133	equivalent days*	6	hr/day*	22.0	gallons/hr
Front End Loader, 928F, 120 HP	3,276	156	equivalent days*	6	hr/day*	3.5	gallons/hr
Backhoe, CAT 426B, 79 HP	3,736	283	equivalent days*	6	hr/day*	2.2	gallons/hr
Crane, Lattice Boom, 200 ft, 260 HP	33,579	533	equivalent days*	6	hr/day*	10.5	gallons/hr
Asphalt Paver, 48 HP	900	10	equivalent days*	6	hr/day*	15.0	gallons/hr
Asphalt Compactor, 80 HP	180	10	equivalent days*	6	hr/day*	3.0	gallons/hr
Subtotal Diesel Gallons	**187,169**						
GHG Emissions in lbs CO_2e	**4,155,150**	22.2 lbs CO_2e per gallon of diesel					
GHG Emissions in metric tons CO_2e	**1,884.74**	1,000 lbs = 0.45359237 metric tons					
Construction: Gasoline							
Equipment	**Gasoline (gallons)**	**Assumptions**					
Construction Worker Personal Vehicles	27,090	8127	round trips*	50	miles/round trip*	0.067	gallon/miles
Subtotal Gasoline Gallons	**27,090**						
GHG Emissions in lbs CO_2e	**525,546**	19.4 lbs CO_2e per gallon of gasoline					
GHG Emissions in metric tons CO_2e	**238.38**	1,000 lbs = 0.45 metric tons					
Construction Summary							
Activity	**CO_2e in pounds**	**CO_2e in metric tons**					
Diesel	**4,155,150**	**1,884.74**					
Gasoline	**525,546**	**238.38**					
Total for Construction	**4,680,696**	**2,120**	Note: Value rounded to nearest 10				
Section IV: Long-Term Operations and Maintenance Details							
Operations and Maintenance: Diesel							
Equipment	**Diesel (gallons)**	**Assumptions**					
Vactor Truck	140	100 years * 1 round trip per year * 1.4 gallons per round trip					
Service/Work Truck/Van, Standard	400	100 years * 5 round trips per year * 0.8 gallons per round trip					
Watering Truck	96	3 years * 40 round trips per year * 0.8 gallons per round trip					
Subtotal Diesel Gallons	**636**						
GHG Emissions in lbs CO_2e	**14,119**	22.2 lbs CO_2e per gallon of diesel					
GHG Emissions in metric tons CO_2e	**6.40**	1,000 lbs = 0.45 metric tons					
Operations and Maintenance: Gasoline							
Equipment	**Gasoline (gallons)**	**Assumptions**					
Subtotal Gasoline Gallons	**0**						
GHG Emissions in lbs CO_2e	**0**	19.4 lbs CO_2e per gallon of gasoline					
GHG Emissions in metric tons CO_2e	**0.00**	1,000 lbs = 0.45 metric tons					
Operations and Maintenance Summary							
Activity	**CO_2e in pounds**	**CO_2e in metric tons**					
Diesel	**14,119**	**6.40**					
Gasoline	**0**	**0.00**					
Total for Operations and Maintenance	**14,119**	**6**	Note: Value rounded to nearest full number				

Table D-11. Fuel Consumption During Construction - Storage Tank and Associated Facilities

Equipment	Equivalent Days[1]	Round Trips[2]	Miles/ Gallon	Hours/ Day	Gallons/ Hour	Fuel Consumption[3] (Gallons)
Semi-truck, Standard Engine with Flatbed		92	5			920
Dump Truck with Pup Trailer		2,890	5			28,900
Concrete Truck, Standard Rear Barrel		2,420	5			24,200
Service/Work Truck/Van, Standard		3,963	12			16,513
Contractor Worker Personal Vehicles		8,127	15			27,090
On-Site Generator,100 kW	198			6	4	4,752
Concrete Pump, Trailer-Mounted, 60 HP	401			6	2.8	6,737
Drill Rig, Crane-Mounted, Vertical, 190 HP	45			6	5.7	1,539
Excavator, CAT 350, 286 HP	431			6	13	33,618
Excavator with Roadheader, CAT 350, 286 HP	138			6	13	10,764
Bulldozer with Ripper, D10T, 580 HP	133			6	22	17,556
Front End Loader, 928F, 120 HP	156			6	3.5	3,276
Backhoe, CAT 426B, 79 HP	283			6	2.2	3,736
Crane, Lattice Boom, 200 feet, 260 HP	533			6	11	33,579
Asphalt Paver, 48 HP	10			6	15	900
Asphalt Compactor, 80 HP	10			6	3	180

[1]"Equivalent Days" is the number of days the equipment would be used times the quantity of that piece of equipment. For example, during excavation for the storage tank and facilities vault, it is assumed there would be two excavators working at the same time, but during other phases of construction there would be only one. The equivalent days accounts for the fact that there would be different quantities of equipment being used on site during different phases of the construction.

[2]Round Trip is assumed to be 50 miles.

[3] All fuel would be diesel, except for Contractor Worker Personal Vehicles, which would be gasoline.

Table D-12. Fuel Consumption During Construction - Shoreline Enhancement

Equipment	Equivalent Days[1]	Round Trips[2]	Miles/ Gallon	Hours/ Day	Gallons/Hour	Fuel Consumption[3] (Gallons)
Dump Truck with Pup Trailer		75	5			750
Service/Work Truck/Van, Standard		240	12			1,000
Contractor Worker Personal Vehicles		240	15			800
Excavator, CAT 350, 286 HP	70			6	13	5,460
Backhoe, CAT 426B, 79 HP	155			6	2.2	2,046

[1]"Equivalent Days" is the number of days the equipment would be used times the quantity of that piece of equipment. For example, during removal of the existing shoreline protection, it is assumed there would be two backhoes working at the same time but during other phases of construction there would be only one. The equivalent days accounts for the fact that there would be different quantities of equipment being used on site during different phases of the construction.

[2]Round Trip is assumed to be 50 miles.

[3] All fuel would be diesel, except for Contractor Worker Personal Vehicles, which would be gasoline.

Table D-13. Fuel Consumption During Construction - CSO Outfall Replacement

Equipment	Equivalent Days[1]	Round Trips[2]	Miles/ Gallon	Hours/ Day	Gallons/ Hour	Fuel Consumption[3] (Gallons)
Semi-truck, Standard Engine with Flatbed		5	5			50
Dump Truck with Pup Trailer		20	5			200
Service/Work Truck/Van, Standard		90	12			375
Contractor Worker Personal Vehicles		180	15			600
Tugboat		4	0.12			816
Service/Support/Transport Boat		90	0.25			1,080
Excavator, CAT 350, 286 HP	15			6	13	1,170
Derrick Barge, Lattice Boom, 50 feet, 4 CY	30			6	12.5	2,250
Backhoe, CAT 426B, 79 HP	8			6	2.2	106

[1]"Equivalent Days" is the number of days the equipment would be used times the quantity of that piece of equipment. For example, during removal of the existing shoreline protection, it is assumed there would be two backhoes working at the same time but during other phases of construction there would be only one. The equivalent days accounts for the fact that there would be different quantities of equipment being used on site during different phases of the construction.

[2]Round Trip is assumed to be 50 miles for land-based vehicles and 24 nautical miles for water-based vehicles.

[3] All fuel would be diesel, except for Contractor Worker Personal Vehicles, which would be gasoline.

Table D-14. Annual Fuel Consumption During Operation - Storage Tank and Associated Facilities

Equipment	Round Trips[1]	Miles/ Gallon	Fuel Consumption[3] (Gallons)
Vactor™ Truck	1	7.4 [2]	1
Service/Work Truck/Van, Standard	5	12	4
Watering Truck [4]	40	12	33
Total			38

[1]A round trip is assumed to be 10 miles; the distance between the SPU operations facility and the site is 5 miles.

[2]Estimate based on heavy, single unit truck (U.S. Department of Energy 2011)

[3] Fuel would be diesel.

[4]Assumes weekly visits for a 5-month summer period for the first 3 years to water plants during their establishment period. These trips would also be used to water plants for the shoreline enhancement component, therefore, separate fuel consumption for the shoreline enhancement is not provided.

Table D-15. Electricity Usage During Construction - Storage Tank and Associated Facilities

Equipment	Quantity	Energy (kWh)
Tower Crane	1	85,000
Total[1]		85,000

[1]The tower crane represents the majority of the electrical use during construction. The number is based on a power demand of 40 kW, 8 hours per day, 5 days per week, and 52 weeks (40 x 8 x 5 x 52 = 83,200). Electrical use by other miscellaneous tools and equipment is factored in by rounding up to 85,000 and because the tower crane will likely not be used for an entire year (52 weeks).

Table D-16. Annual Electricity Usage During Operation - Storage Tank and Associated Facilities

Equipment	Quantity	Annual Energy (kWh)
Odor Control Exhaust Fan	1	65,700
Electrical/Mechanical Room Supply Fan	1	8,760
Electrical/Mechanical Room Exhaust Fan	1	8,760
Odor Control Room Supply Fan	3	8,760
Odor Control Room Supply Fan	1	8,760
Basin Drain Pump	2	10,512
High Pressure Booster Pump	1	3,504
Total[1]		174,324

[1]The annual energy consumed by the facility is estimated to be +/- 25 percent of this value; therefore, the annual energy consumed would be between 131,000 kWh and 218,000 kWh (6 to 10 homes).