



**Legislative Department  
Seattle City Council  
Memorandum**

**Date:** May 20, 2014

**To:** Jean Godden, Chair  
Bruce A. Harrell, Vice-Chair  
Tom Rasmussen, Member  
Parks, Seattle Center, Libraries & Gender Pay Equity Committee  
Sally Bagshaw, Chair  
Seattle Public Utilities and Neighborhoods Committee

**From:** Lish Whitson, Council Central Staff

**Subject:** Henderson North CSO

On May 20, 2014, the Parks, Seattle Center, Libraries, and Gender Pay Equity Committee will discuss two pieces of legislation related to Seattle Public Utilities' (SPU's) Henderson North Combined Sewer Overflow (CSO) project. The Henderson North CSO project consists of installation of an underground storage tank in Seward Park to store excess sewage and stormwater flows from Basin 44 during heavy rains. Along with the CSO tank and associated infrastructure, shoreline and landscape improvements would be made. Once constructed, the project would reduce the number and volume of raw sewage and untreated stormwater overflows to Lake Washington, thereby protecting public health and improving water quality in the lake. The proposed project 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 project involves the construction and installation of a 2.65 million gallon CSO tank at Basin 44 in Seward Park. The proposed CSO tank and related infrastructure would be mostly located beneath existing tennis courts at the southwestern corner of the park. Piping and related infrastructure would be located below the park, in the water, and above grade within the park. The project would extend south to Basin 45 at Martha Washington Park.

Approval of two pieces of legislation is required for the project to move forward. The first is an ordinance (C.B. 118066) that would: 1) partially transfer the jurisdiction of park space to SPU in order to allow for the construction and maintenance of the CSO and 2) supersede the requirements of Initiative 42, which places limits on the sale, transfer or change of park use. The second is a Council Concept Approval of a utility service use, a Type V land use decision (C.F. 313666).

This project is one of a number of Combined Sewer Overflow projects that SPU intends to undertake between now and 2025. The project is proposed in response to a Consent Decree between the City, the State Department of Ecology and the United States Environmental Protection Agency, and the City's National Pollutant Discharge Elimination System (NPDES) permits. The NPDES contains regulatory milestones related to 90% plans, Final Plans and Notice to Proceed (NTP) with potential penalties for non-compliance. The first of the NPDES deadlines, completion of 90% plans for the facility, is October 31, 2014. The Consent Decree requires construction completion of the North Henderson project by December 31, 2018 and controlled status (control of the CSO resulting in no more than one untreated discharge per year) by December 31, 2019, with penalties for non-compliance.

This memo compares the proposed project and the alternative site considered and provides a range of options for Council action.

## **Background**

In the Seward Park area, stormwater from the drainage system and wastewater from the sewage system are fed into the same pipes and sent for treatment to King County's West Point Treatment Plant or South Treatment Plant. During storms, the existing CSO facility detains approximately 50,000 gallons of combined stormwater and wastewater so that downstream facilities are not overburdened. During heavy storm events, the CSO tank is designed to overflow and release combined stormwater and wastewater through a pipe that extends 680 feet into Lake Washington. The current 50,000 gallon tank releases combined stormwater and wastewater into Lake Washington approximately 17 times a year. The Consent Decree requires an average of less than one overflow a year.

SPU and the Parks Department narrowed the options for storage increases to two locations shown in Figure 1: under the tennis courts in the southwest corner of Seward Park, or under the south parking lot, approximately 700 feet east of the Tennis Courts site.

### *Tennis Courts Site (Figure 2)*

The Tennis Courts alternative would site a new 2.65 million gallon tank underneath the Seward Park tennis courts at the southwestern corner of the park at the southern end of Lake Washington Boulevard S. The tennis courts run generally north-south. They are at the base of a hill, adjacent to single-family homes on the hillside to the west and along the shoreline to the east. To the north of the tennis courts are the main entries to Seward Park and Parking Lot 2.

Above-grade mechanical structures would be located adjacent to the northwest corner of the tennis courts. The tennis courts would be rebuilt in a similar location, with a new paved pathway on the water side of the tennis courts. Under this alternative, the shoreline would be reconstructed adjacent to the pathway to provide better fish habitat.

Construction at this site would require closing the courts and the adjacent 28-space parking lot (Parking Lot 1) for up to thirty months. SPU, working with a contractor last fall, identified construction staging requirements that would allow the south parking lot (Parking Lot 2) to remain open during construction.

### *South Parking Lot Site (Figure 3)*

The South Parking Lot site would site a new 2.65 million gallon tank underneath Parking Lot 2 along the southern shoreline of the park. Parking Lot 2 runs generally east-west. It is adjacent to a walking path that rings the Bailey Peninsula, which the park occupies. North of the walking path is a hill that sits in the middle of the peninsula.

Above-grade mechanical structures would be located adjacent to the tank at the South Parking Lot site. The parking lot would be rebuilt in a similar location in a similar configuration. Under this alternative, the shoreline is not required to be reconstructed adjacent to the parking lot to provide better fish habitat.

This option would require closing the parking lot for up to thirty months during construction. The tennis courts and adjacent Parking Lot 1 would be used for construction staging and would be closed for 12 to 18 months.

Under either alternative, after construction is complete, portions of the chosen site would need to be closed for approximately four to six hours a month for inspection. SPU estimates that every five to ten years they would need to close the chosen site of the tanks for longer periods for more intensive equipment maintenance.

SPU and the Parks Department have chosen the Tennis Courts alternative as the proposed site.

## **Legislation**

### *Council Bill 118066: Partial Transfer of Jurisdiction/I-42*

In order to move forward with the proposed site, SPU requires Council approval for the Partial Transfer of Jurisdiction (PTOJ) of the proposed site of the CSO facility from the Parks Department to SPU. They also need approval of that transfer under the terms of Initiative 42, or Council action to supersede I-42. Initiative 42 (codified by Ordinance 118477) requires that “All lands and facilities held now or in the future by The City of Seattle for park and recreation purposes... shall be preserved for such use; and no such land or facility shall be... changed from park use to another usage, unless the City shall first hold a public hearing regarding the necessity of such a transaction and then enact an ordinance finding that the transaction is necessary because there is no reasonable and practical alternative and the City shall at the same time or before receive in exchange land or a facility of equivalent or better size, value, location and usefulness in the vicinity, serving the same community and the same park purposes.” However,

according to Ordinance 118477, replacement is not required for a sub-surface or utility easement compatible with park use. Council Bill 118066 would provide approval for the PTOJ and would supersede the requirements of Initiative 42.

*Clerk File 313666: Council Concept Approval and Shoreline Approvals*

The project also requires a number of land use approvals requested in Clerk File 313666. Seward Park is zoned SF9600, a single-family zone. In single-family zones, utility service uses, such as CSO facilities, require City Council approval. In order for the Council to approve the use, SPU needs to “demonstrate the existence of a public necessity for the public facility use in a single-family zone.” The facility also needs to meet the development standards for institutions. The Department of Planning and Development’s (DPD’s) Director’s Report on the application (3015640) states that the facility will meet the development standards for institutions in single-family zones.

At either site, the area two hundred feet landward of the ordinary high water (OHW) mark is in the Conservancy Recreation (CR) shoreline designation. The area waterward of the OHW mark is in the Conservancy Preservation (CP) shoreline designation. Most projects over \$2,500 in value in shoreline districts need a Shoreline Substantial Development Permit (SSDP). The City may grant SSDPs only when the proposal is consistent with the policies and procedures of Chapter 90.58 RCW (the State Shoreline Management Act); the City’s shoreline regulations; and the provisions of Chapter 173-27 WAC (State Shoreline Management Permit and Enforcement Procedures). The Council may attach conditions to the approval of a permit as necessary to assure consistency of the proposed development with the Seattle Shoreline Master Program and the Shoreline Management Act.

Utility service uses in the CR district also require a Shoreline Conditional Use permit. Utility service uses are permitted only if:

- a. They reasonably require a shoreline location to operate;
- b. They are the minimum size necessary to meet the purpose; and
- c. They mitigate adverse impacts to achieve no net loss of ecological functions.

In January 2013, the Council adopted Ordinance 124105 updating Seattle’s Shoreline regulations in response to State mandates. The new regulations will not go into effect until after the Washington State Department of Ecology completes its review of the amendments. Among other changes, it would increase the required setbacks from the shoreline in the CR designation. If the project were moved to the South Parking Lot, SPU would need to submit a new application to DPD and the project is likely to be subject to these new rules. Currently, the project is vested to the existing shoreline regulations.

## **Comparison of the two sites**

After analysis and review of the two options, SPU has proposed to build the project on the Tennis Courts site because of its lesser impacts on over 1.1 million annual visitors to Seward Park and 21,000 annual users of the Audubon Center. Neighbors of the park have argued that SPU should instead select the South Parking Lot site because it is farther from the ten adjacent single-family homes, and will therefore have fewer impacts on the residences.

### ***Recreation Impacts***

The two sites would have similar impacts during construction; however, the Tennis Court site would have fewer impacts on visitors to the park. The Tennis Court site would not require closure of the south parking lot. The South Parking Lot site would require closure of the tennis court parking lot for construction of the outfall and associated piping to and from the existing and proposed facility for a period of 12 to 18 months. The loss of available parking with the South Parking Lot alternative is of significant concern to Parks. The South Parking Lot site would have more noise, light, dust and vibration impacts on park users than the Tennis Court site. After construction, the Tennis Courts alternative would result in the loss of two parking spaces. The South Parking Lot alternative would result in the loss of five parking spaces. Over time, as inspections and maintenance activities are required, the site that is chosen would need to be closed temporarily to allow for that work.

### ***Environmental Impacts***

The Henderson Basin 44 CSO Reduction Project Environmental Impact Statement (EIS) reviewed the environmental impacts of building the project and the two alternatives on the following elements of the environment:

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

On most of these issues, impacts of building the proposed CSO facility at the two sites were determined to be the same. The sites were identified to be different under the following categories:

#### *Air Quality, Odor and Climate Change*

No significant impacts to air quality, odor, or climate change are expected to occur in Seward Park during or after construction. Dust may be generated during construction, and odors could be generated during operation, however differences will not be significant. If there are differences, park users would be more impacted by the South Parking Lot alternative, and residents would be more impacted by the Tennis Courts alternative.

#### *Cultural Resources*

The EIS identified Seward Park as eligible for the National Register of Historic Properties. Because the two alternatives would affect different parts of the park, the alternatives have different but comparable impacts on Cultural Resources.

#### *Habitat, Wildlife and Fish*

During construction, both alternatives have the potential to disturb upland habitat, but would not have significant adverse impacts on habitat, wildlife or fish. The Tennis Courts alternative would disturb 1.43 acres of upland habitat and remove 43 trees, including two “exceptional trees.” The South Parking Lot alternative would disturb 1.36 acres of upland habitat and remove 26 trees, including ten “exceptional trees.” These trees represent less than one percent of the trees in Seward Park and would be replaced at a two-for-one ratio, increasing the overall tree canopy in the park. Two bald eagle nests in the park are one-quarter and one-half mile from the sites but closer to the South Parking Lot. Given the distances and character of the area, the sites are effectively the same in relation to these nests.

#### *Vibration and Geology*

Both sites are 20 to 30 feet from the toe of hillside slopes approximately 30 to 35 feet high. Portions of both slopes have been mapped as environmentally critical areas with slopes matching or exceeding 40%. Based on subsurface investigations and mapped geology, the slopes are likely comprised of Blakely bedrock, overlain by a thin mantle of soil. No signs of instability have been identified at the Tennis Court site. Both sites will require de-watering during construction.

Similar to other impacts, there may be some vibration during construction under either alternative, with impacts on nearby residences higher under the Tennis Courts alternative, and impacts on park users higher under the South Parking Lot alternative. Based on SPU’s experience from both the Genesee and Windermere CSO projects, construction vibration is anticipated to be experienced for only three to six months out of the thirty-month

construction period. With planned vibration reduction measures, vibration is not expected to damage nearby structures.

### *Noise and Environmental Hazards*

The EIS found that there would be noise from construction under both alternatives. Construction noise levels at the nearby residences would reach from 65 to 77 dBA<sup>1</sup> under the Tennis Courts alternative and 63 to 64 dBA under the South Parking Lot alternative. Construction noise levels at the nearby park facilities, including the Audubon Center, playground and ADA picnic shelter would range reach from 70 to 76 dBA under the South Parking Lot alternative, but would only reach 66 or 67 dBA under the Tennis Courts Alternative. Noise levels in the 70s are similar to the noise of a highway from fifty feet away. Noise levels in the sixties are similar to an air conditioner from twenty feet away. While park users and nearby residents likely would notice a moderate increase in noise levels at times, construction noise is not anticipated to exceed 80 dBA, the acceptable limit for construction noise. Based on SPU's experience from both the Genesee and Windermere CSO projects the construction noise is expected to be at these peaks over a three to six month period within the overall construction duration.

The original EIS was appealed to the Hearing Examiner. The Hearing Examiner remanded the SPU Director's adequacy determination on the Final EIS on the sole issue of project-related operational noise. A Revised Final EIS was published in September 2013 to augment the record on the topic of operational noise. That Revised Final EIS found no expected increase to existing daytime noise levels at residences or at key sensitive park sites under either alternative. Two houses might experience an increase of one dBA as a result of the Tennis Courts alternative. Under normal listening conditions, people typically cannot detect increases of 1 to 2 dBA. The highest noise levels would be adjacent to the air intake and exhaust vents in or adjacent to parking lots.

### *Costs*

SPU has completed a significant amount of work in pursuit of a permit for the Tennis Court site. They have analyzed the costs of the South Parking Lot site and determined that shifting to that site would increase total project costs by approximately \$12,600,000. Up to \$3.6 million would result from repeating the design process at a new site. The remainder of the increase in costs would result from the Parks Department's intention to preserve future development opportunities at the South Parking Lot site. One future development alternative would be restoration of the natural shoreline including recreating a natural grade across the site (+/-6'). The Parks department is also considering relocation of the parking lot and adding additional landscaping on the current parking lot site. This would require the CSO tank at the South Parking Lot site to be

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<sup>1</sup> dBA stands for decibel A-weighting, in which decibels are adjusted to reflect the frequencies heard by humans.

built deeper in order to allow for future plantings (shrubs and small trees) above the tank. At the South Parking Lot site, the tank could be up to 12 feet deeper than at the Tennis Courts site. SPU estimates that each additional foot of depth will cost approximately one million dollars in site costs.

The incremental increase to SPU ratepayers based on the change of location would be approximately 0.2% per year for drainage rates and 0.1% per year for wastewater rates between 2014 and 2017. These increases would be on top of planned drainage rate increases of 8.8% a year and wastewater rate increases of 3.9% a year.

Additional financial implications of moving the preferred site should also be noted. SPU has already spent \$3,600,000 on design and permitting the current site. More importantly, the additional unanticipated capital costs will result in higher debt service, which will push SPU's Debt Service Coverage down to a precariously low level. The Fund's financial policies require 1.8 times coverage. SPU estimates that in 2017, the coverage would be 1.88 and drop to 1.84 by 2019 as a result of the additional debt service required by moving the project to the south parking lot site. Coverage this low could result in a 'Negative Outlook' or downgrade to SPU's bond rating by Moody's and Standard and Poor's. If this occurred, SPU would face higher interest rates on future bond issues in a Fund with very high capital expenditure requirements through 2025.

### ***Timing***

SPU has determined that by changing sites, it will not be possible to make National Pollutant Discharge Elimination System (NPDES) regulatory milestones for 90% Plans, Final Plans and Notice to Proceed. By missing these dates, the City could be subject to fines of up to \$10,000/day through the Clean Water Act. However, the City would still be able to meet the Consent Decree deadlines of December 31, 2018 and December 31, 2019. SPU estimates that the project could be completed by mid-2018 at the new site, but would risk non-compliance with the Consent Decree if anything else arose to delay the project. The Consent Decree deadlines carry daily fines per violation which start at \$3,000 a day and increase to \$5,000 a day after 30 days of non-compliance per each violation.

### **Proposed Mitigation measures**

The DPD Director's Report on Clerk File 313666 included a number of recommended conditions to mitigate the proposed project.

#### **Conditions related to the Shoreline Substantial Development Permit:**

##### ***During Construction***

1. Any work water ward of the ordinary high water mark shall be restricted to applicable work windows established by the Washington Department of Fish and Wildlife.

2. Appropriate Best Management Practices (BMPs) shall be employed to prevent any debris or other deleterious material from entering Lake Washington, such as the use of a turbidity curtain and/or debris boom surrounding the project area during in-water and over-water work to contain any debris, suspended sediments, or spills caused by construction activities. Materials to be disposed of shall be contained on site and then discarded at an appropriate upland facility.

3. Any debris that enters the water during the proposed work shall be removed immediately and contained until it can be disposed of at an appropriate upland facility.

*For the Life of the Project*

4. No pesticides or fertilizers shall be applied within 50 feet of the stream, wetland or shoreline at this project location except as authorized by DPD.

5. The outfall shall be designed to prevent the entry of fish.

6. Shoreline revegetation and shoreline enhancement measures shall be monitored and maintained.

**Conditions related to the State Environmental Policy Act**

*Prior to Commencement of Construction*

7. Execute the public outreach plan including: a website to provide project and progress updates, obtain email list-serve for project updates, and provide project contacts (with phone numbers) for the public. These contacts should also be mailed to nearby property owners (SPU should define the appropriate area of the mailings).

*Prior to Issuance of the Master Use Permit – Council Land Use Decision*

8. The project owner and/or responsible parties shall provide DPD with a statement that the contract documents for their general, excavation, and other subcontractors will include reference to regulations regarding archaeological resources and that construction crews will be required to comply with those regulations, including the following:

- Archaeological Sites and Resources (RCW 27.53)
- Indian Graves and Records (RCW 27.44)
- Archaeological Site Public Disclosure Exemption (RCW 42.56.300)
- Discovery of Human Remains (RCW 27.44)
- Archaeological Excavation and Removal Permit (WAC 25-48)
- Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60)

## Options

The Council has a range of options related to these two pieces of legislation.

1. Approve proposed legislation as proposed, direct Central Staff to prepare Findings, Conclusions and Decision
2. Approve with additional mitigation, items identified as potential measures to reduce impacts in the EIS not listed above include:

### Prior to construction

- Explore design improvements to further reduce above-ground features;
- Provide a contact person for neighbors to troubleshoot issues during construction;
- Perform pre and post-construction surveys of nearby structures, hillsides and utilities; and
- Install additional vegetation along property lines to screen and muffle construction.

### During construction

- Provide advance public notice, signage, and website information, regarding construction activity, particularly the noisiest construction activity;
- Stage trucks offsite to the extent feasible while minimizing trips to the site;
- Schedule the construction of project elements so they do not overlap, when feasible, to reduce the number of vehicle trips at one time;
- Limit construction disturbances to the minimum area needed and the shortest duration possible;
- Schedule construction to avoid or minimize overlap with the construction of other projects in the vicinity;
- Coordinate construction hours with the scheduling of special events;
- Suspend construction during Seafair;
- Use construction methods that reduce vibration;
- Specify threshold vibration levels in the contract documents;
- Implement a monitoring program to measure vibration levels and any movement of nearby existing structures;
- Do not use rock blasting;
- Follow best management practices for controlling fugitive dust;
- Use 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; and

- Conduct on-site monitoring to ensure compliance with noise requirements.

After construction

- Schedule maintenance activities at low-use times in the park, except in cases of emergency.

3. Reject Tennis Courts alternative, ask SPU to pursue South Parking Lot site with understanding that the project will be delayed by over year, and costs could increase by approximately \$13 million.

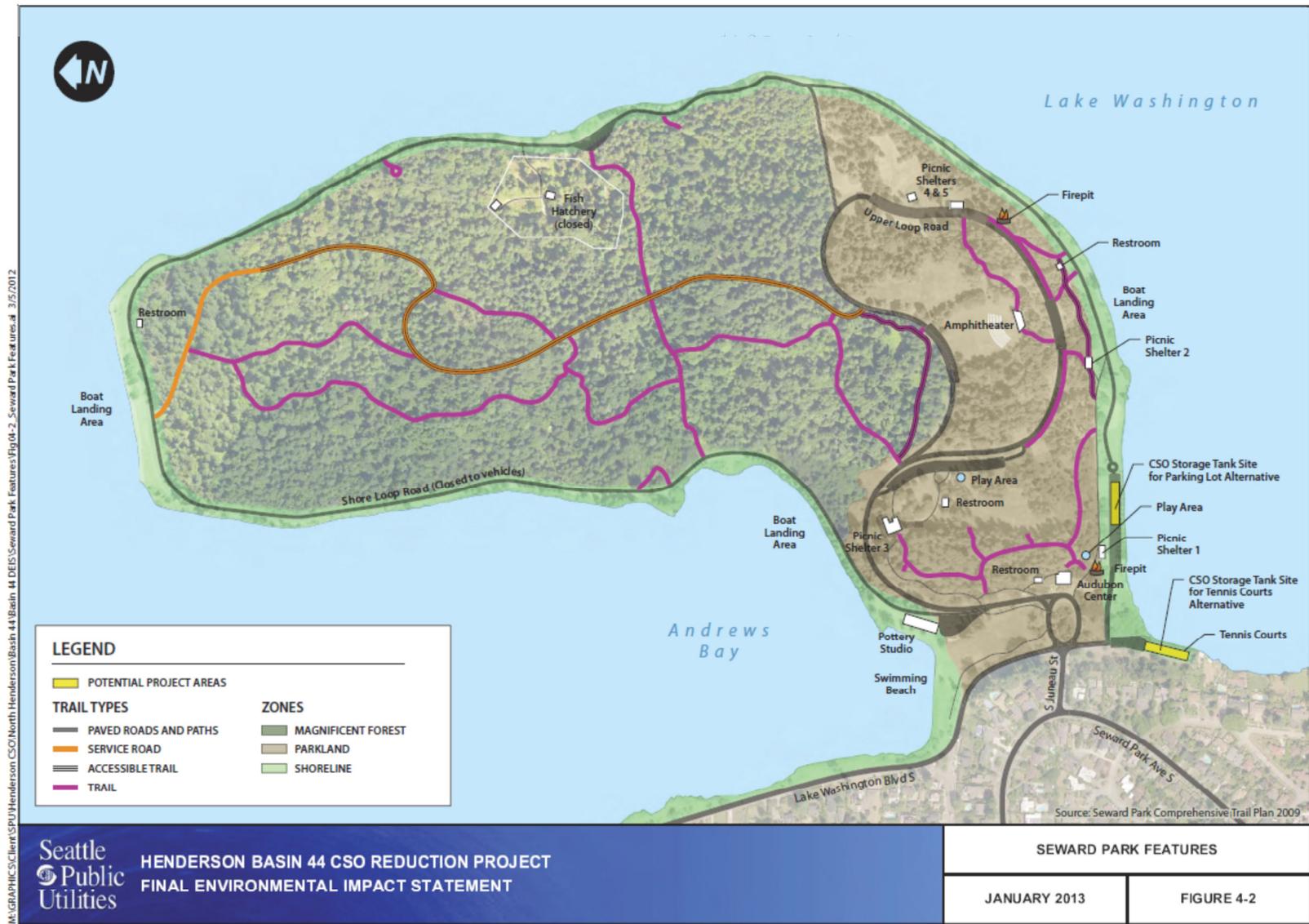


Figure 1: Seward Park and location of Alternatives

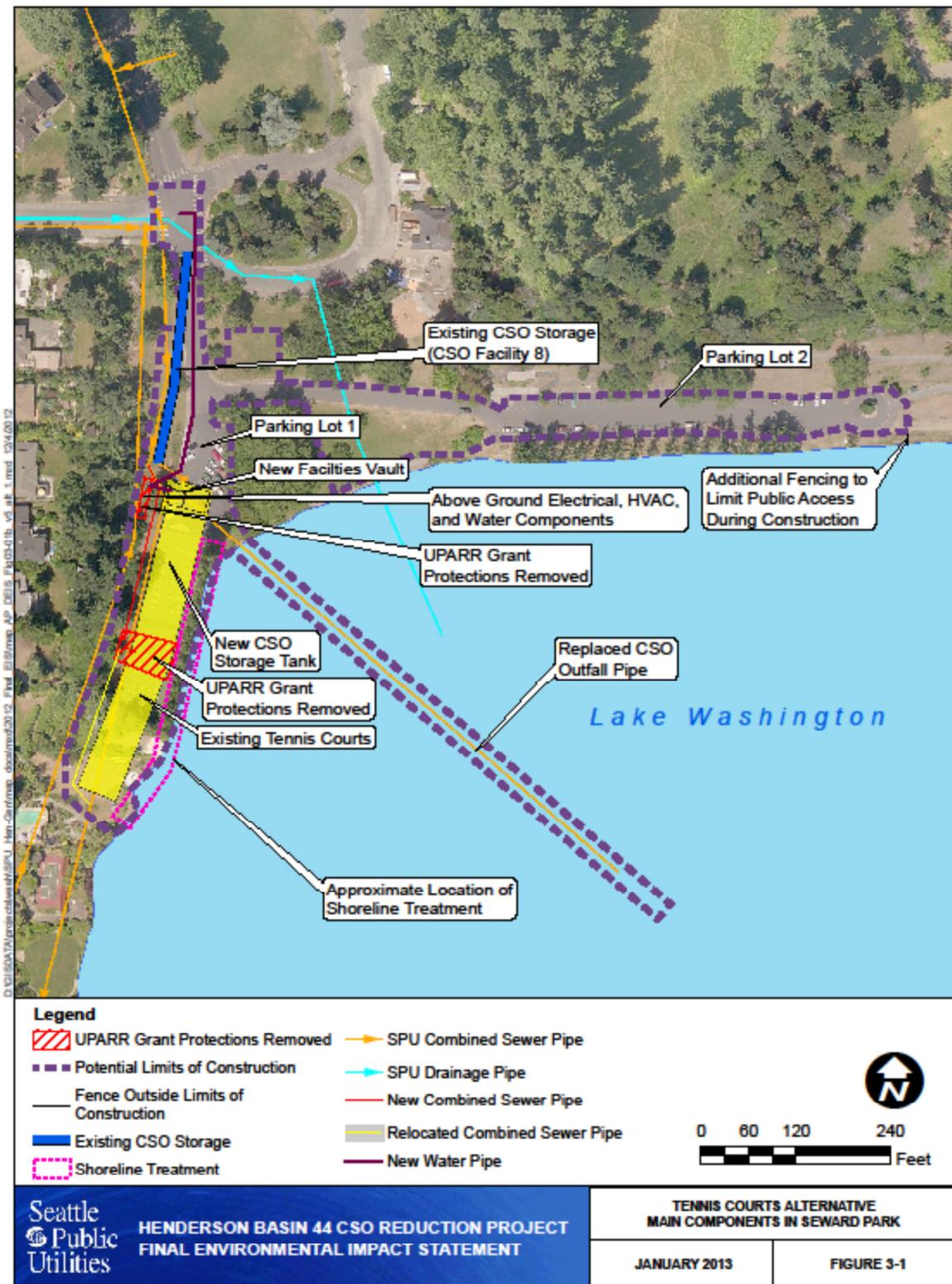


Figure 1: Tennis Court Alternative

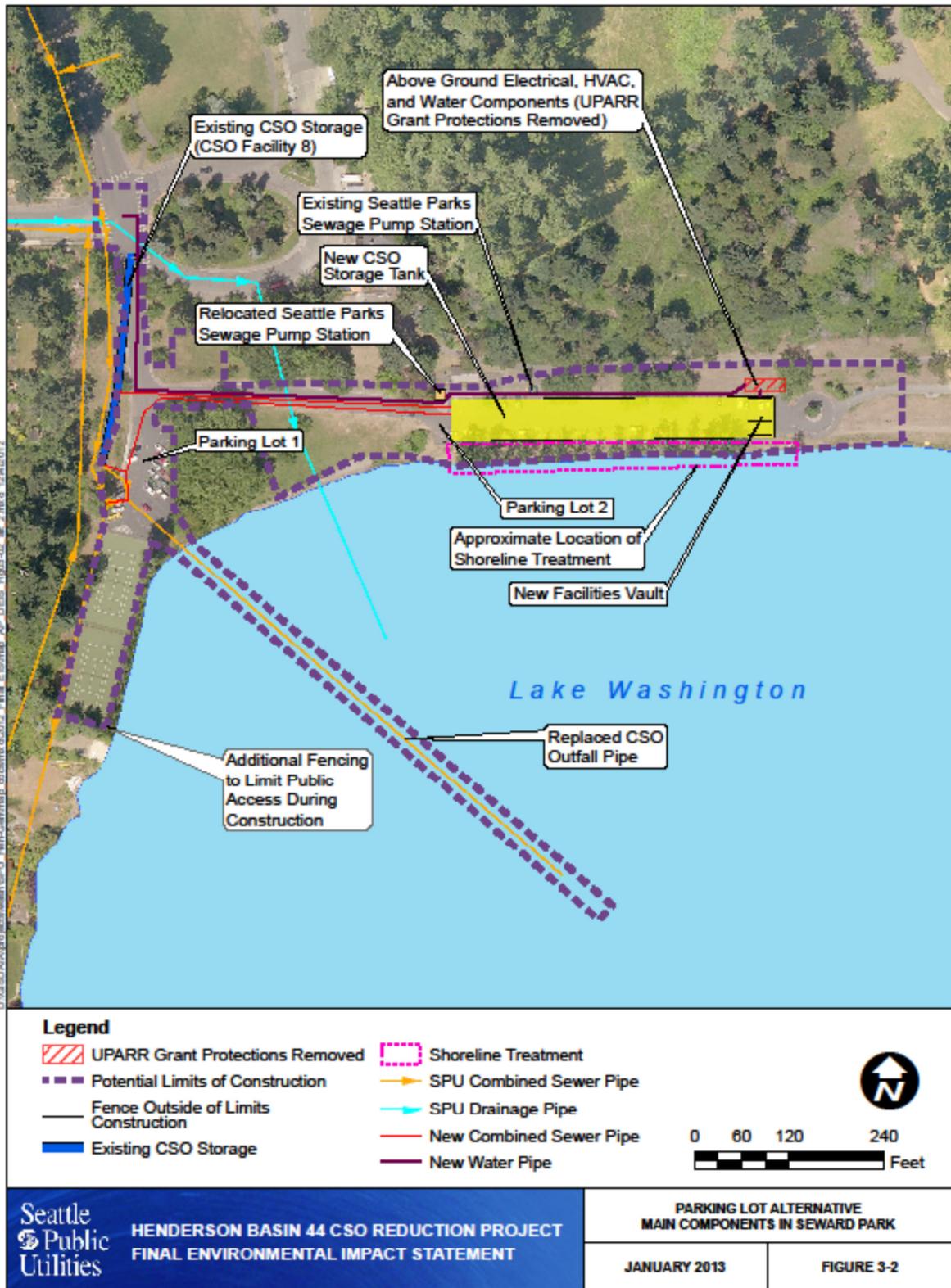


Figure 2: South Parking Lot Alternative