Seattle Public Utilities

Protecting Seattle's Waterways

Protecting Seattle's Waterways

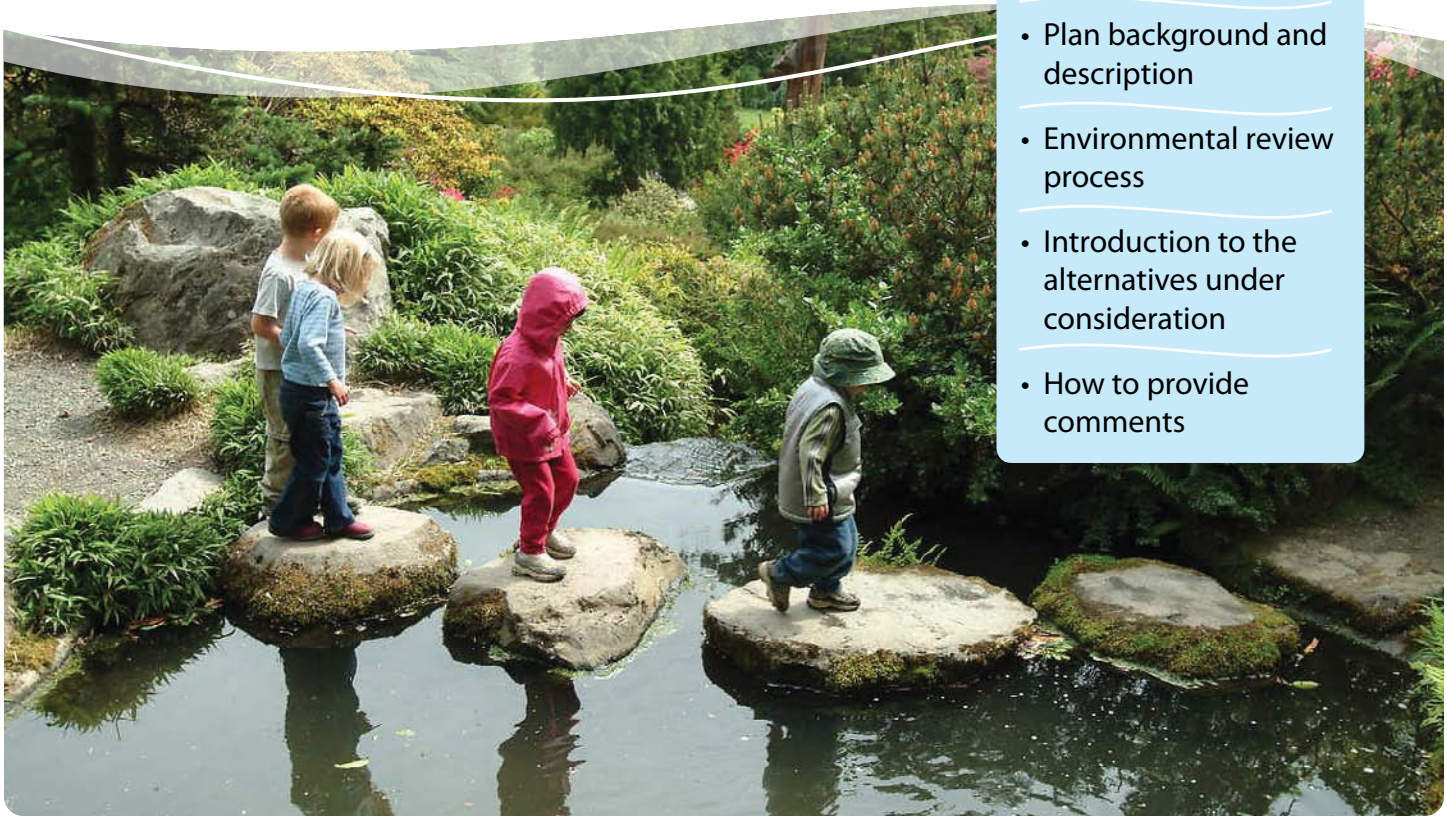
Community Guide to the Plan

Issue 2 - Spring 2013

Seattle Public Utilities is preparing a long-term plan to reduce the amount of raw sewage and polluted stormwater that flows into Seattle's creeks, lakes, rivers, and Elliott Bay. Seattle Public Utilities must correct this problem to protect public health and the environment, and comply with the federal Clean Water Act and state regulations.

Look inside for:

- Plan background and description
- Environmental review process
- Introduction to the alternatives under consideration
- How to provide comments



Plan Overview

What is the Protecting Seattle's Waterways Plan?

The Protecting Seattle's Waterways Plan will outline Seattle Public Utilities' strategy to control sewage overflows and meet state and federal regulations. Specifically, the Plan will:

- **Identify areas of Seattle where projects are needed to reduce sewage overflows.**
- **Evaluate alternatives for reducing sewage overflows in these areas.**
- **Identify additional areas where projects to control and treat polluted stormwater runoff will improve water quality.**
- **Recommend a schedule for designing and constructing projects.**
- **Estimate program costs and associated impacts on Seattle Public Utilities customer bills.**
- **Consider public and stakeholder input.**

35 of the 87 outfalls Seattle Public Utilities manages are uncontrolled, meaning that overflows occur more than once per year on average.

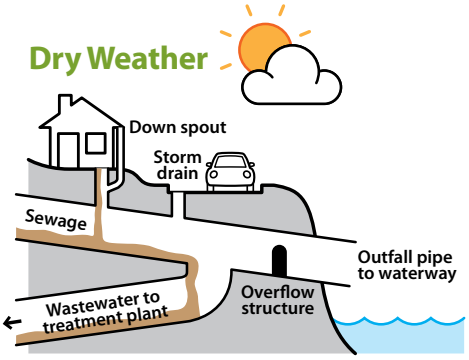
Sewage Overflow Quick Facts

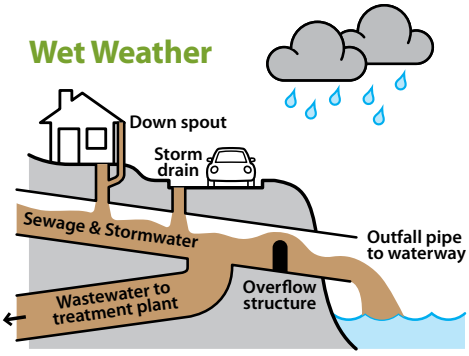
- **Seattle Public Utilities and King County both manage outfalls in Seattle.**
- **Seattle Public Utilities manages 87 outfalls; King County manages 38.**
- **355 overflow events and 154 million gallons discharged in 2012 at Seattle Public Utilities managed outfalls.**
- **About one billion gallons discharged in 2012 (Seattle and King County combined).**

Why does Seattle need the Plan?

About two-thirds of Seattle is served by a combined sewer system, which was designed to carry sewage from inside homes and stormwater runoff from streets, rooftops, and parking lots in a single pipe—a "combined sewer." During dry weather, all raw sewage flows to the treatment plant. When it rains, the pipes can become overloaded with polluted stormwater. This mixture of stormwater (about 90%) and raw sewage may overflow into lakes, streams, and the Puget Sound.

The mixture of stormwater and sewage may harm fish, wildlife, and swimmers in the areas where overflows occur. Because of these impacts to water quality, the federal Clean Water Act and state regulations require that we take action and reduce overflows to an average of no more than one overflow per outfall per year. The Protecting Seattle's Waterways Plan will outline Seattle Public Utilities strategy for complying with these requirements.





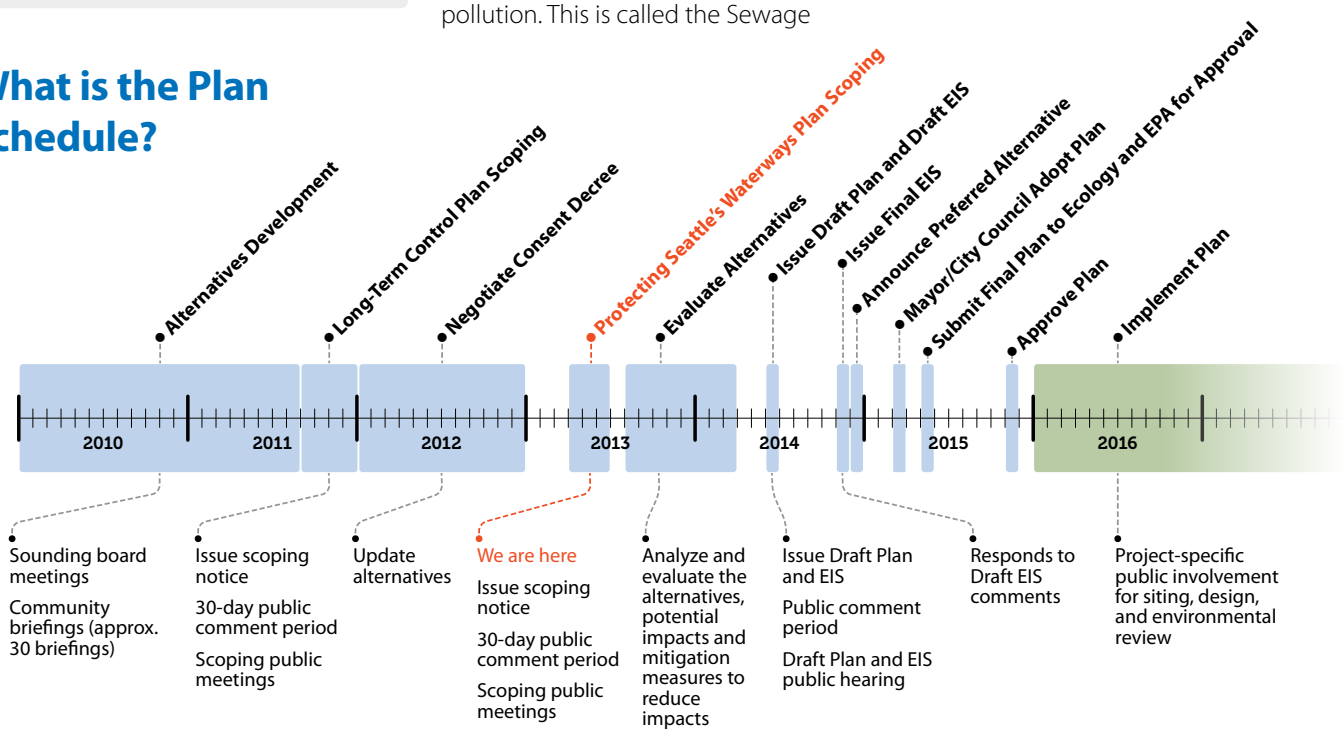
Did you know?

- **Seattle has been working to reduce sewage overflows since the 1960s.**
- **Annual overflows have been reduced from 30 billion gallons per year in 1970 to 1 billion gallons in 2012 (Seattle and King County combined).**
- **The Protecting Seattle's Waterways Plan will outline how Seattle Public Utilities will finish the job of reducing sewage overflows.**

What's in the Plan?

Seattle Public Utilities is evaluating two different approaches in the Plan. These approaches are called alternatives. One alternative would address sewageoverflows only. This is called the Sewage Overflow Reduction Alternative. It would be implemented by 2025 to meet state and federal regulations. The second alternative would address both sewage overflows and stormwater pollution. This is called the Sewage and Stormwater Pollution Reduction Alternative. This alternative meets the U.S. EPA's requirements for integrating stormwater and sewage overflow into one plan, also called an Integrated Plan. If Seattle Public Utilities chooses this alternative, it may delay building some sewage overflow reduction projects until after 2025. See pages 5-14 for a detailed description of these two approaches.

What is the Plan schedule?



Environmental Review Process

Seattle Public Utilities is preparing an Environmental Impact Statement (EIS) under the State Environmental Policy Act (SEPA) to document how the Plan could affect people and the environment.

What is Scoping?

Scoping is the first step in preparing an EIS. The purpose of scoping is to determine the range or "scope" of issues to study in a project's environmental review document, as required by SEPA.

What are the potential environmental issues?

Public comment helps Seattle Public Utilities identify the potential environmental issues it should evaluate in the EIS. The EIS will evaluate both temporary construction impacts and long-term benefits and impacts to people and the environment. Seattle Public Utilities will discuss the following environmental issues in detail in the programmatic EIS:

- **Transportation, particularly construction-related traffic impacts**
- **Recreation, including potential impacts to parks and open spaces**
- **Land and shoreline use**
- **Historic and cultural resources**
- **Public safety and environmental health**

What will the EIS Evaluate?

Because the Plan describes an entire program, rather than individual projects, Seattle Public Utilities will prepare a programmatic EIS to analyze the potential effects of the Plan on people and the environment. The EIS will examine how combinations of projects may collectively benefit and impact the environment. It differs from a project-specific EIS, which focuses on specific design details of individual projects.

The Plan will identify the general location, type, size, and number of projects Seattle Public Utilities proposes to build throughout the city. It will not provide specific details on where projects will be built or what they will look like.

Seattle Public Utilities will conduct a project-specific environmental review process for each project during Plan implementation.

How to Comment

Scoping includes an official comment period from May 20, 2013 to June 20, 2013. The public, interested agencies, and Tribal governments are invited to provide comments on the issues they would like to see addressed in the EIS.

To help the project team best understand your concerns and interests, comment letters should clearly identify the alternatives or issues of concern.

Submit comments by June 20, 2013

By Mail:

Seattle Public Utilities
Attention: Betty Meyer,
SEPA Responsible Official
Seattle Municipal Tower,
Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

By E-mail:

betty.meyer@seattle.gov

In Person –

Attend a scoping open house:

Monday, June 3, 2013
4:30 – 6:30 p.m.
Seattle City Hall
Bertha Knight Landes Room
600 4th Avenue, Seattle

Online

Watch a five-minute video about the Protecting Seattle's Waterways Plan and complete an online questionnaire: www.seattle.gov/CSO

For more information:

Call 206-733-9148
E-mail: CSO_LTCP@seattle.gov
Visit our website: www.seattle.gov/CSO

For interpretation services please call 206-684-5959

如需要口譯服務，請撥電話號碼 206-684-5959

통역 서비스를 원하시면 206-684-5959 으로전화하세요

Wixii turjubaan afka ah ku saabsan, fadlan la soo xariir taleefoonka 206-684-5959

Para servicios de interpretación por favor llame al 206-684-5959

Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-5959

Về dịch vụ phiên dịch xin gọi 206-684-5959

Alternatives in Brief

Seattle Public Utilities has identified two alternative approaches to control and treat sewage overflows and polluted stormwater runoff. Seattle Public Utilities is also required by SEPA to evaluate one "no action" alternative. Both alternative approaches would allow Seattle Public Utilities to meet its obligation to prepare a Long-Term Control Plan, a required element of the United States EPA's Combined Sewer Overflow Control Policy.

Sewage Overflow Reduction Alternative

The Sewage Overflow Reduction Alternative (also called the Long-Term Control Plan Alternative) uses a combination of sewer system improvements, natural drainage solutions, and underground storage to reduce sewage overflows in 11 neighborhoods. Seattle Public Utilities would implement the projects identified in the Sewage Overflow Reduction Alternative from 2016-2025, to comply with an agreement the City negotiated with the Washington Department of Ecology (Ecology), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Justice. This agreement is called a Consent Decree. The Sewage Overflow Reduction Alternative focuses solely on the combined sewer system and reducing sewage overflows to an average of no more than one overflow per outfall per year by the year 2025. See pages 7-11 for more detailed information about the Sewage Overflow Reduction Alternative.

What is a Consent Decree?

The Consent Decree is a written agreement between the City of Seattle, Washington Department of Ecology (Ecology), the U.S. Environmental Protection Agency (EPA), and the U.S. Department of Justice that describes the actions the City of Seattle must take to address violations of the Clean Water Act caused by sewage overflows.

What is an Integrated Plan?

An Integrated Plan allows municipalities to prioritize sewage and stormwater reduction projects to obtain maximum water quality benefits more quickly. The EPA, states, and municipalities often focus on meeting each Clean Water Act requirement individually. As a result, we sometimes solve one problem at a time without full consideration of all Clean Water Act requirements. This can prevent municipalities from addressing the most serious water quality issues first.

Sewage and Stormwater Pollution Reduction Alternative

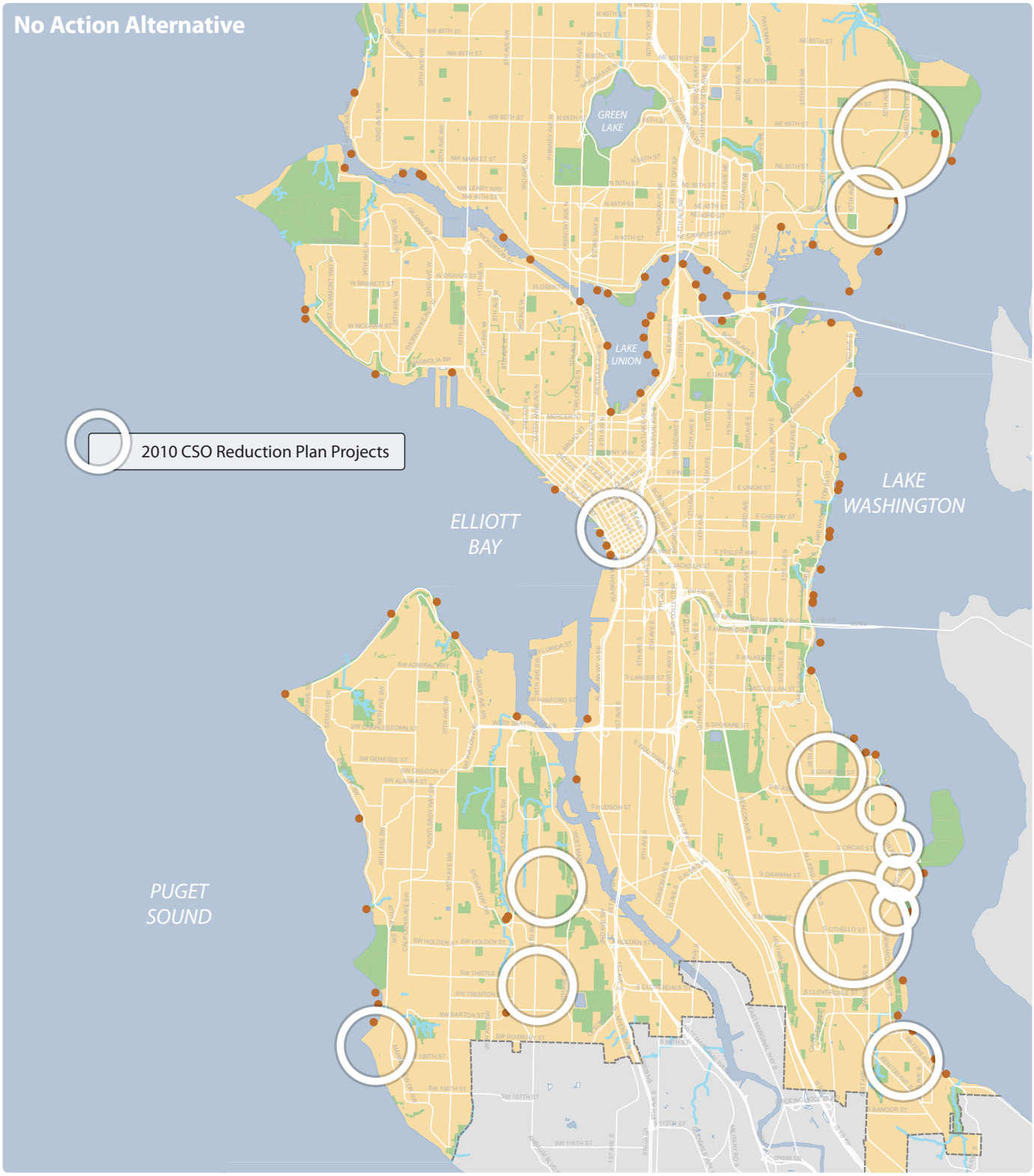
The Sewage and Stormwater Pollution Reduction Alternative uses an integrated approach to reduce both sewage overflows and polluted stormwater runoff. It prioritizes projects that would provide the greatest public health and environmental benefit. This alternative meets the technical requirements of an Integrated Plan.

Previously, Seattle Public Utilities implemented sewage overflow control and stormwater management as separate and distinct programs. Recognizing that polluted stormwater runoff has a big impact on water quality, the Consent Decree allows Seattle Public Utilities to prepare a plan that integrates sewage overflow reduction projects with stormwater control projects to achieve greater environmental benefit than sewage overflow reduction alone.

Seattle Public Utilities will follow the direction set by the Consent Decree to evaluate projects based on the water quality benefits they provide when compared to sewage overflow prevention projects. See pages 12-14 for more information about the Sewage and Stormwater Overflow Reduction Alternative.

No Action Alternative

The No Action Alternative serves as a basis for comparing effects associated with the two action alternatives. Under the No Action Alternative, Seattle Public Utilities would complete the projects identified in the *2010 CSO Reduction Plan Amendment*, but would not build any additional sewage overflow reduction or stormwater control projects. The projects in the *2010 CSO Reduction Plan Amendment* address sewage overflows at the most critical sites and use the following sewage overflow reduction strategies: sewer system upgrades, natural drainage systems, and underground storage. Under the No Action Alternative, Seattle Public Utilities would not comply with the Clean Water Act and state regulations.



Sewage Overflow Reduction Alternative: Strategies

Three strategies for reducing sewage overflows:

- **Fix It First**
- **Keep Stormwater Out**
- **Store What's Left**

The Sewage Overflow Reduction Alternative (also called the Long-Term Control Plan Alternative) uses a combination of three strategies to reduce sewage overflows: sewer system improvements, natural drainage solutions, and underground storage.

Fix It First: Sewer System Improvements

Seattle Public Utilities can reduce sewage overflows by making minor modifications to the existing sewer system to make better and more reliable use of existing capacity.

Keep Stormwater Out: Natural Drainage Solutions

The term natural drainage solutions describes a variety of measures that use soil to absorb stormwater or slow the rate of stormwater entering the sewer system. Examples include:

Roadside rain gardens – Deep-rooted native plants and grasses planted in a shallow depression in the public right-of-way, such as the planting strip adjacent to homes.

RainWise– City of Seattle program that provides homeowners with rebates for installing rain gardens and cisterns on their own property.

Store What's Left: Underground Storage

Underground storage facilities temporarily hold raw sewage and polluted stormwater during a storm, when there is less room available in the combined sewer system. When the storm passes and capacity is available, the underground storage facility gradually sends the raw sewage and polluted stormwater to a wastewater treatment facility.

What types of underground storage facilities might Seattle Public Utilties build?

Storage facilities can be in the form of tanks, pipes, or tunnels. Tanks and tunnels are generally used to store larger volumes while storage pipes are appropriate for smaller volumes of stormwater and sewage. Larger storage tanks and tunnels require larger sites, while a smaller storage pipe can be built underneath the street in the right-of-way.

In some neighborhoods, Seattle Public Utilities may only need to build one large underground storage facility to meet storage needs. In other areas, it may be more effective to build two or three smaller facilities within a neighborhood.

Seattle Public Utilities will determine the type of storage facility—tank, pipe, or tunnel—and the number of facilities needed in each neighborhood during the project-level design and siting process, which would begin after 2015.

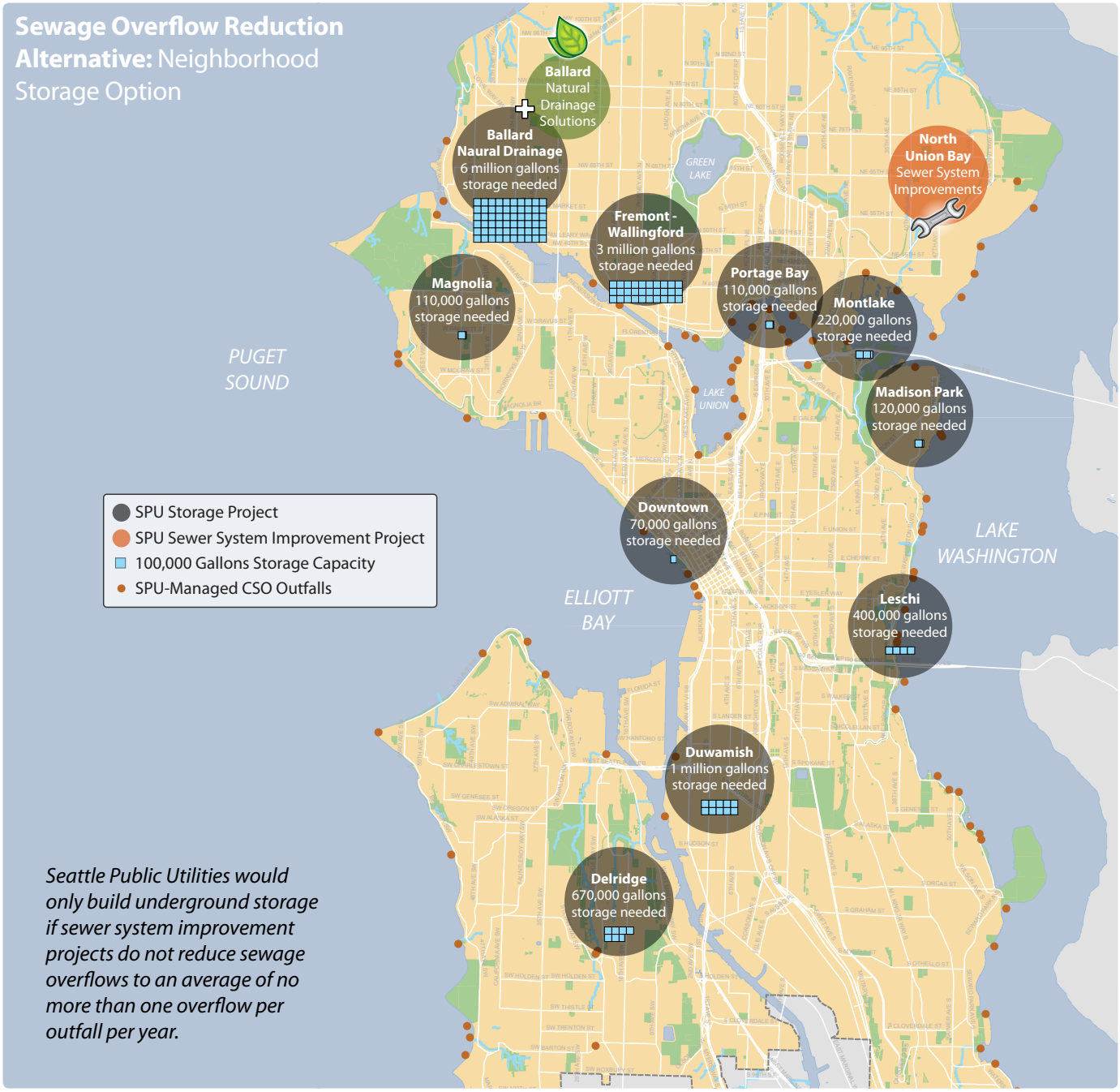
Seattle Public Utilities will work with the community during the siting process to ensure that community interests are considered.

Sewage Overflow Reduction Alternative: Options

Seattle Public Utilities is evaluating four options within the Sewage Overflow Reduction Alternative (also known as the Long-Term Control Plan Alternative). Each option emphasizes a specific approach to reducing sewage overflows.

Neighborhood Storage Option

Seattle Public Utilities would build underground storage facilities in 10 Seattle neighborhoods (see map below). This option involves building the largest number of underground storage facilities throughout the city. Seattle Public Utilities would also build natural drainage projects in Ballard and sewer system improvement projects in North Union Bay.



Shared Storage Option

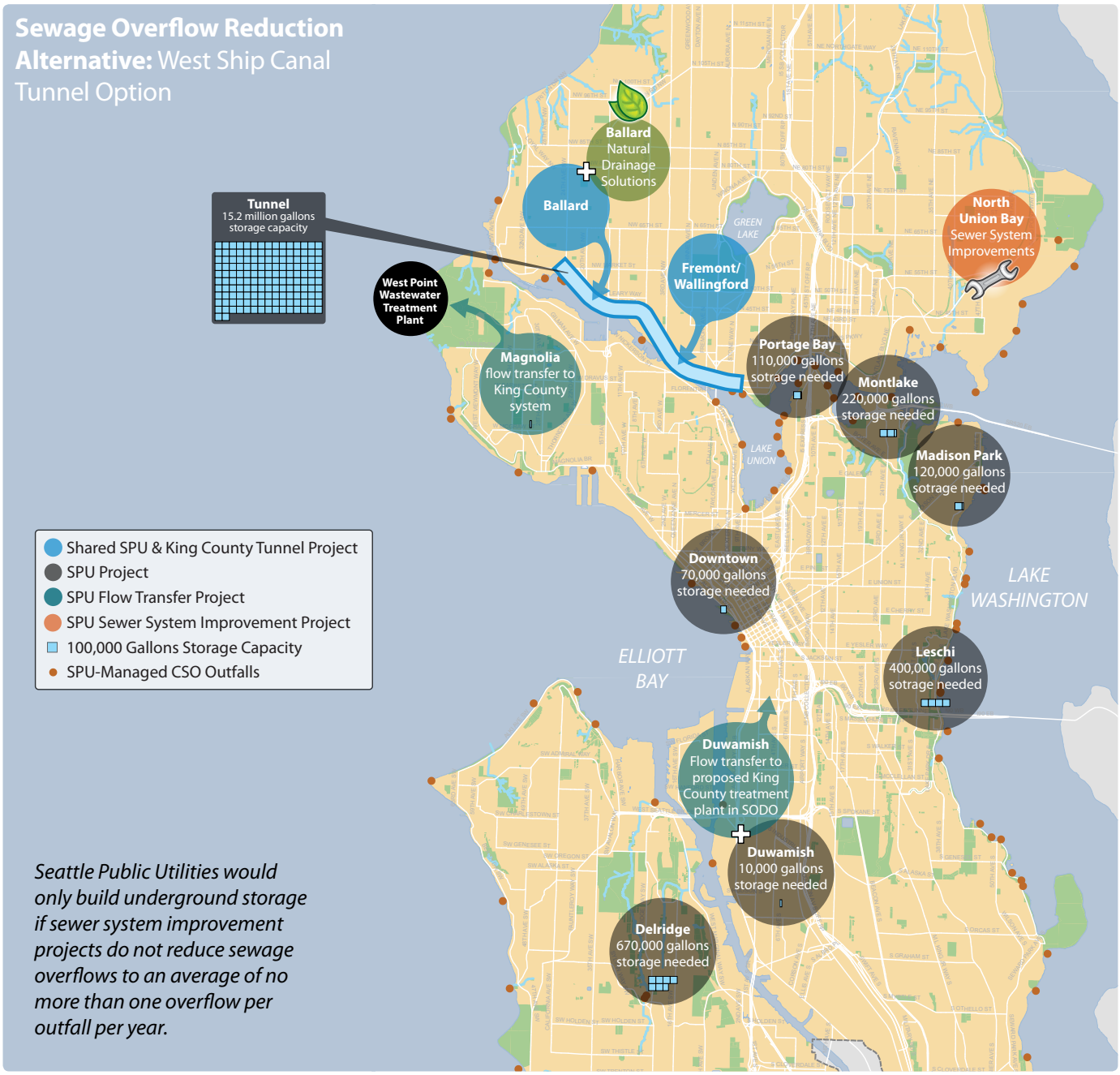
Seattle Public Utilities and King County would jointly build underground storage tanks in Montlake, University District, and Fremont/Wallingford, reducing the total number of new storage facilities needed. Seattle Public Utilities would build underground storage in the Portage Bay, Magnolia, Ballard, Downtown, Duwamish, and Delridge neighborhoods; natural drainage projects in Ballard; and sewer system improvement projects in North Union Bay – the same as the Neighborhood Storage Option. In the Duwamish neighborhood, Seattle Public Utilities would also transfer flows to the treatment facility King County proposes to build in SODO near Hanford and Lander Streets.

West Ship Canal Tunnel Option

Seattle Public Utilities and King County would jointly build a storage tunnel along the west end of the Ship Canal from Ballard to Fremont/Wallingford. The tunnel would be approximately 2.7 miles long and 14 feet in diameter, and would provide the storage capacity needed to address sewage overflows in the Ballard and Fremont/Wallingford neighborhoods. The tunnel would eliminate the need for two separate King County underground storage project at outfalls near Third Avenue W and 11th Avenue W.

The tunnel would not address the sewage overflow reduction needs in Leschi, Madison Park, Montlake, Portage Bay, North Union Bay, Downtown, Duwamish, and Delridge. In these neighborhoods, Seattle Public Utilities would need to build additional sewer system improvements and underground storage facilities, the same as the Neighborhood Storage Option. Seattle Public Utilities would also build natural drainage projects in Ballard.

In the Duwamish neighborhood, Seattle Public Utilities would transfer flows to the treatment facility King County proposes to build in SODO near Hanford and Lander Streets, the same as the Shared Storage Option. In Magnolia, Seattle Public Utilities would transfer flows to the King County system to eliminate the need to build 110,000 gallons of storage.

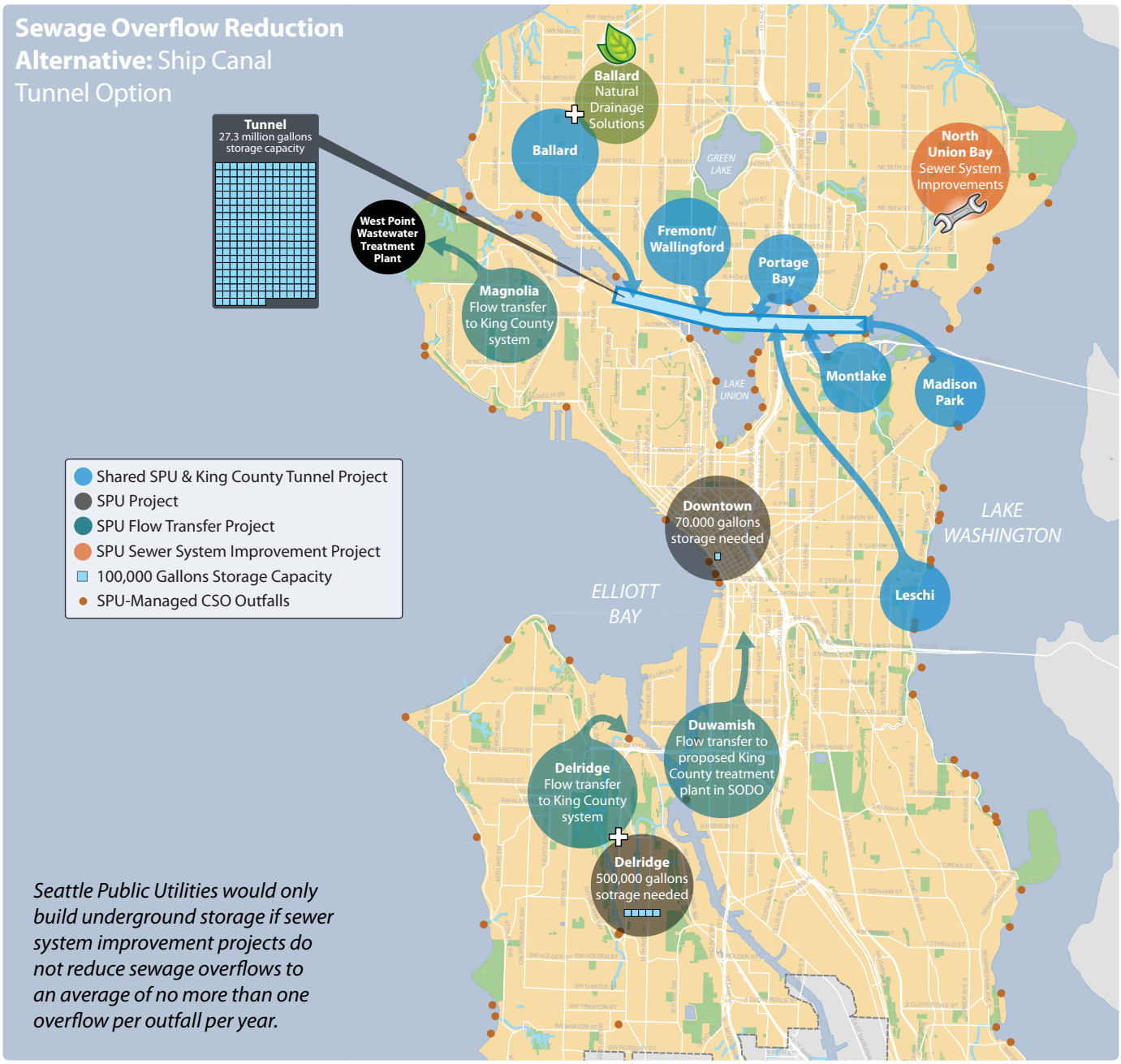


Ship Canal Tunnel Option

Seattle Public Utilities and King County would jointly build a storage tunnel along the east end of the Ship Canal from Fremont/Wallingford to Montlake. The tunnel would be approximately 2.9 miles long and 18 feet in diameter, and would provide the storage needed to address sewage overflows in the Ballard, Fremont/Wallingford, Portage Bay, Montlake, Madison Park, North Union Bay, and Leschi neighborhoods. The tunnel would also eliminate the need for two separate King County underground storage project at outfalls near Third Avenue W and 11th Avenue W. Seattle Public Utilities would also build natural drainage projects in Ballard, the same as the Neighborhood Storage, Shared Storage, and West Ship Canal options.

The tunnel would not address sewage overflow reduction in the Duwamish, Delridge, and Magnolia neighborhoods. In the Duwamish neighborhood, Seattle Public Utilities would transfer flows to the King County system. In Delridge, Seattle Public Utilities would transfer flows to the King County system and also build underground storage.

Seattle Public Utilities would address sewage overflows in the Magnolia, Downtown, and North Union Bay neighborhoods the same as in the West Ship Canal Tunnel Option.



Sewage and Stormwater Pollution Reduction Alternative: Strategies

Three strategies for reducing stormwater runoff and improving water quality:

- **Reduce Pollution**
- **Slow the Flow**
- **Prevent Pollution**

The Sewage and Stormwater Pollution Reduction Alternative (also called the Integrated Plan Alternative) uses a combination of three strategies to reduce stormwater runoff and improve water quality. This section provides a description of these strategies. Page 14 of this booklet identifies the neighborhoods in which these strategies would be implemented.

What is stormwater runoff?

Stormwater is rain and melting snow that runs off surfaces that cannot readily absorb water, such as streets, rooftops, and parking lots. As stormwater runs across these hard surfaces, it picks up pollutants such as oil, grease, and metals, carrying them through the City's storm drain system to our lakes, streams, rivers, and Puget Sound. It also flows into the combined sewer system and causes overflows of raw sewage and polluted stormwater into Seattle waterways. Recent scientific studies have determined that polluted stormwater runoff poses a significant impact to local water quality.

Reduce Pollution

In some areas, Seattle Public Utilities can reduce the amount of pollutants in stormwater runoff by making modifications to the existing storm drain system. These strategies can be applied at the private property, block, or regional level.

Private property

Rain gardens use plants to help clean and absorb stormwater into the ground before it flows into the storm drain system.

Block

Seattle Public Utilities can modify storm drains with a device that filters pollutants from roadway runoff before it enters the storm drain system.

Neighborhood

Large retention ponds and roadside rain gardens can treat stormwater before it enters the storm drain system.

Slow the Flow

Seattle Public Utilities can slow the rate of stormwater entering the sewer system through infiltration, detention, and dispersion techniques.

Infiltration

Infiltration captures stormwater runoff and allows it to seep slowly into soil rather than enter the storm drain system or sewer system.

Detention

Ponds, pipes, vaults, and cisterns temporarily hold stormwater runoff during a storm and then slowly discharge the stormwater at a reduced rate.

Dispersion

Stormwater is diverted from streets, parking lots, and other impervious surfaces into areas with native vegetation or grass so that the stormwater can seep slowly into soil rather than enter the storm drain system or sewer system.

Prevent Pollution

Seattle Public Utilities can also reduce the amount of pollutants in stormwater by street sweeping to clean pollutants off the roadway before stormwater runoff picks it up or by cleaning storm drain pipes to remove accumulated pollutants. In addition, education and outreach programs help teach the public and businesses what they can do to reduce pollution at home and work.

Sewage and Stormwater Pollution Reduction Alternative

Seattle Public Utilities would implement stormwater control projects in Seattle neighborhoods to address stormwater runoff in areas that are not part of the combined sewer system. Seattle Public Utilities would use a combination of pollution reduction, flow control, and pollution prevention strategies. These projects would reduce polluted stormwater runoff into the Duwamish Waterway, Lake Washington, Piper's Creek, Thornton Creek, and Lake Union/ Ship Canal. Seattle Public Utilities is focusing stormwater control projects in these areas to meet the Integrated Plan objectives established by the Consent Decree.

Seattle Public Utilities would also build sewage overflow reduction projects in the Leschi, Montlake, Portage Bay, Duwamish, East Waterway, Magnolia, Madison Park, Downtown, Ballard, Fremont/Wallingford, Delridge, and North Union Bay neighborhoods using one of the four Sewage Overflow Reduction Options outlined on pages 8-11. However, Seattle Public Utilities would delay some of the sewage overflow control projects until after 2025. Seattle Public Utilities would propose an implementation schedule to state and federal regulators.

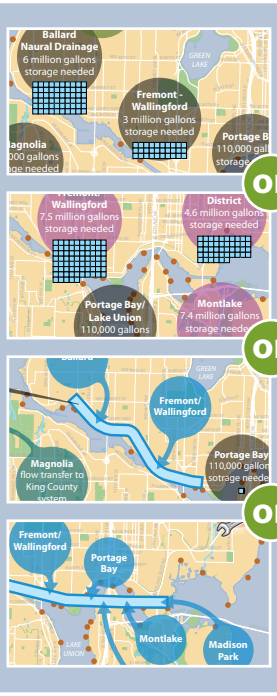
Sewage overflow reduction

Seattle Public Utilities would build sewage overflow control projects using one of these four options:

and

Stormwater pollution reduction

Seattle Public Utilities would also implement stormwater control projects in these neighborhoods.



Neighborhood Storage Option
Page 8

or

Shared Storage Option
Page 9

or

West Ship Canal Tunnel Option
Page 10

or

Ship Canal Tunnel Option
Page 11

How will Seattle Public Utilities decide which stormwater control projects to build?

Seattle Public Utilities will follow the direction set by the Consent Decree to evaluate projects based on the water quality benefits they provide compared to sewage overflow reduction projects.

Stay Informed

How to Comment

Scoping includes an official comment period from May 20, 2013 to June 20, 2013. The public, interested agencies, and Tribal governments are invited to provide comments on the issues they would like to see addressed in the EIS.

To help the project team best understand your concerns and interests, comment letters should clearly identify the alternatives or issues of concern.

Submit comments by June 20, 2013

By Mail:

Seattle Public Utilities
Attention: Betty Meyer, SEPA Responsible Official
Seattle Municipal Tower, Suite 4900
P.O. Box 34018
Seattle, WA 98124-4018

By E-mail:

betty.meyer@seattle.gov

In Person –

Attend a scoping open house:

Monday, June 3, 2013
4:30 – 6:30 p.m.
Seattle City Hall
Bertha Knight Landes Room
600 4th Avenue, Seattle

Online

Watch a five-minute video about the Protecting Seattle's Waterways Plan and complete an online questionnaire: www.seattle.gov/CSO

For more information:

Call 206-733-9148
E-mail: CSO_LTCP@seattle.gov
Visit our website: www.seattle.gov/CSO

For interpretation services please call 206-684-5959

如需要口譯服務，請撥電話號碼 206-684-5959

통역 서비스를 원하시면 206-684-5959 으로전화하세요

Wixii turjubaan afka ah ku saabsan, fadlan la soo xariir taleefoonka 206-684-5959

Para servicios de interpretación por favor llame al 206-684-5959

Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-5959

Về dịch vụ phiên dịch xin gọi 206-684-5959

Real-Time Sewage Overflow Reports

King County and the City of Seattle provide real-time reports when sewage overflows happen. To view the map, go to *www.seattle.gov/CSO*. Click on "Real Time Reports of Raw Sewage Overflows".

Sewage overflows happen along shorelines in Seattle where pipes carry both sewage and stormwater during heavy rains. During the overflow, and for 48 hours afterward, people are at risk from exposure to bacteria in the water near the outfalls.

The web information is updated at least hourly, and in many cases every 10 minutes, to provide the fastest notification possible. Warning signs are also posted at each outfall.

Seattle Public Utilities

Protecting Seattle's Waterways

Learn more about the Protecting Seattle's Waterways Plan online at www.seattle.gov/CSO

For interpretation services please call 206-684-5959
如需要口譯服務，請撥電話號碼 206-684-5959
통역 서비스를 원하시면 206-684-5959 으로전화하세요
Wixii turjubaan afka ah ku saabsan, fadlan la soo xariir taleefoonka 206-684-5959
Para servicios de interpretación por favor llame al 206-684-5959
Para sa serbisyo ng tagapagpaliwanag, tumawag sa 206-684-5959
Về dịch vụ phiên dịch xin gọi 206-684-5959

Printed on Chlorine free paper containing 30% post consumer waste.