

**King County**Department of Natural Resources and Parks
Wastewater Treatment Division

Sunset and Heathfield Pump Stations and Force Main Upgrade

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Welcome

Welcome to the King County Sunset and Heathfield Pump Stations and Force Main Upgrade Project online open house.

This online open house is an opportunity to:

- Learn why the project is needed and the benefits it will provide
- Read and view final design plans
- Show how the community influenced design
- Start preparing you for what to expect during construction
- Submit questions and comments to the project team

How to use this online open house:

- Visit the tabbed "stations" at the top of the page
- Click the "Next" button or select any tab at the top of the page to navigate to a new topic
- Keep track of your notes and questions at the bottom of the page and submit them at the "Email Sign Up" station

We will keep you up to date as the project progresses. Submit your contact information at the [Email Sign Up](#) station at the end of this open house in order to receive project updates moving forward. You may also submit questions and comments via the [Email Sign Up](#) station.



Lake Sammamish



This map shows the location for the Sunset and Heathfield Pump Station and connected force main pipe upgrades.

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Want to learn more?

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- Email: desean.quinn@kingcounty.gov

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Why are these upgrades needed?

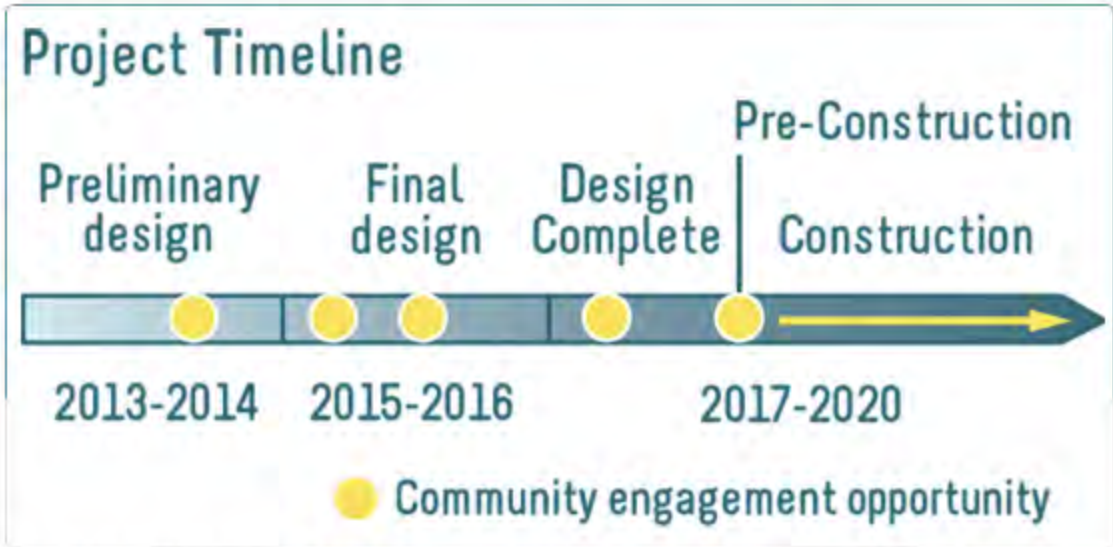
The Sunset and Heathfield Pump Stations have reliably transported sewage from Sammamish, Issaquah, and Bellevue to King County's Renton treatment plant for over 50 years. This infrastructure is reaching its limit, so the County is updating the pump stations and connected force main pipe to:

- Ensure reliable wastewater service in the region for years to come
- Increase the capacity of the system to accommodate regional growth
- Update equipment and technology to ensure facilities run smoothly and efficiently

For more project background, please see our [FAQ page](#).

Project update

After three years of design, the final design for the Sunset and Heathfield Pump Stations and force main alignment is complete. The updated designs were featured in the [December Newsletter](#), and you can find detailed information about the final design in this online open house.



King County anticipates beginning construction on these upgrades as early as spring 2017.

How you influenced design

Thank you for working with us to reach the final design. You gave input through comment forms, surveys, and conversations with project staff. You spoke and we listened! Read through the table to the right to see how your feedback was incorporated into the design.

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How the community influenced design

Community Preferences	Resulting Design Decision
Screen the pump stations using landscaping	1 Native trees and shrubs will be used to screen both pump stations from the surrounding neighborhood
Prioritize sustainability, fish and wildlife habitat, and green stormwater infrastructure	2 Habitat enhancing log structures and plants along the Lake Sammamish shoreline at the Sunset Pump Station 3 New green roof at the Sunset Pump Station 4 New rain garden at the Heathfield Pump Station
Match generator enclosure colors to the look and feel of the surrounding area	5 Generator enclosure colors were chosen based on nieghbor feedback
Maintain private viewpoints by limiting building height and choosing site specific tree species	6 While the new equipment on the roof of the Sunset Pump Station will be 01.5 feet taller than the existing pump station, current sightines to the lake will not be obscured 7 Native trees and shrub species were chosen to screen the pump stations while also maintaining views of Lake Sammamish where possible, specifically near the Sunset Pump Station
Use from the 2015 community survey for the fencing and lighting at the Sunset Pump Station	8 The Sunset Pump Station will have a straight metal fence with stone columns based on community preference 9 Both pump stations will feature new, energy-efficient, straight bollard lighting based on community preference

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Sunset Pump Station

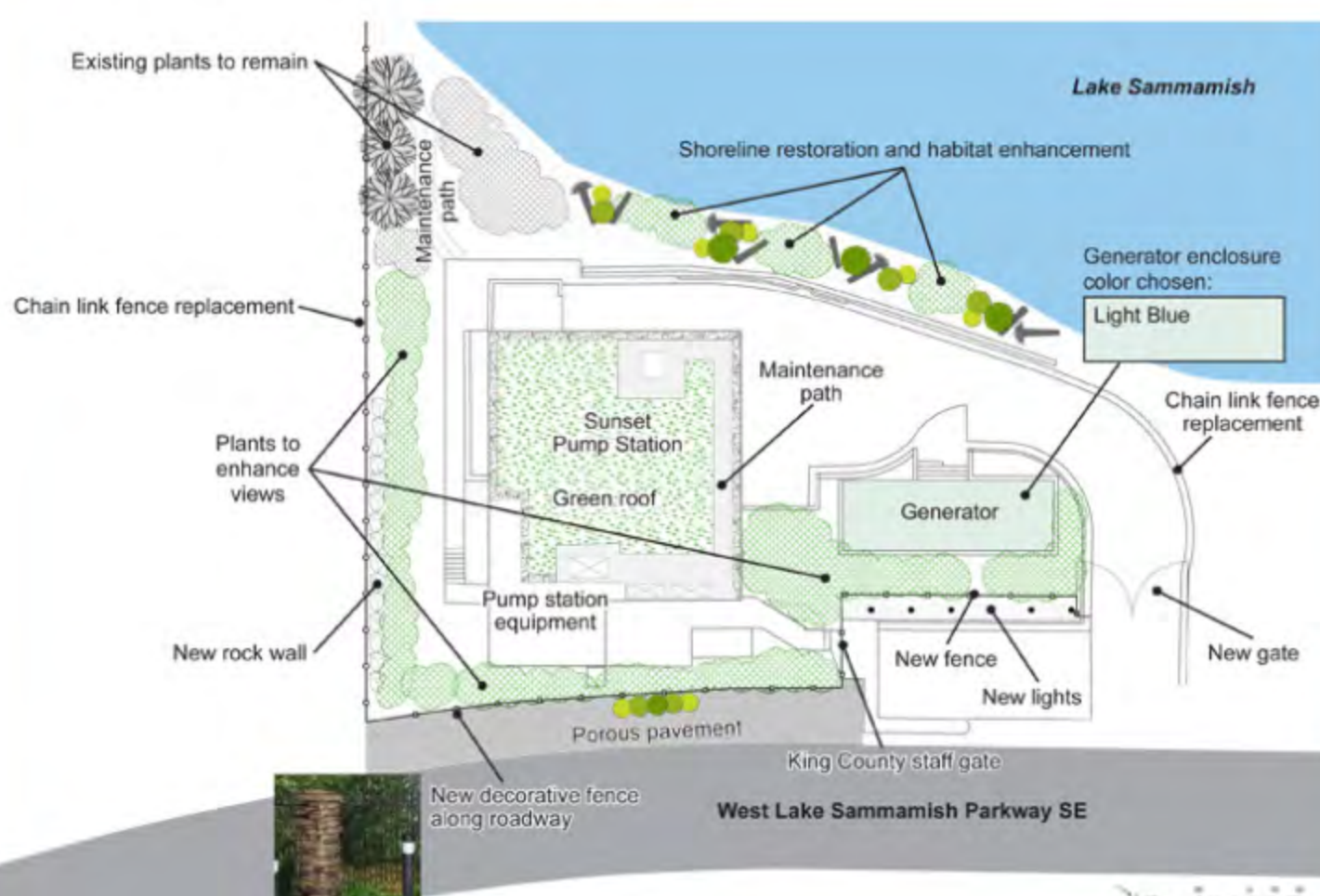
The Sunset Pump Station is located along Lake Sammamish just south of Vasa Park. The final design enhances the natural environment where possible and maintains existing sightlines to the lake. Key upgrades at the pump station include:

- New pumps
- Green roof with irrigation system
- Gravel walkway
- Porous paving
- New bollard lighting
- Shoreline restoration
- New landscaping
- New electrical and controls system
- New standby generator
- New heating and air conditioning systems
- Replaced fencing with new ornamental fence



Sunset Pump Station

Sunset Pump Station conceptual site layout



Pump Station tour



Raw sewage pump – Pumps wastewater through the force main pipe from Sunset Pump Station to Heathfield Pump Station. Will be replaced with new pumps and force main during construction.



Manual isolation gates – Part of the force main pipe and allows wastewater into or out of the pump station.



Variable frequency drives and electrical gear – This equipment provides power to the motors that turn the pumps. Some of this electrical equipment will be replaced during construction.



Hydraulic system accumulators – Emergency pressure storage in case the system loses pressure.

Terms to Know

- **Pump station** – Facility that pumps

Landscaping features

The project is committed to maintaining and, where possible, enhancing the rich ecology of the area, especially along Lake Sammamish and Vasa Park. Many existing trees will remain, while existing noxious species will be removed and replaced with strategically selected native or site-appropriate species, including:

- 7-to-8-foot-tall Vine Maples
- 8-10-foot-tall Sitka Spruce
- 8-10-foot-tall Leylandi Cypress
- Additional trees, including birch, plum, spruce, cherry, and cypress
- Shrubs, including Nootka Rose, Salmonberry, Pacific Willow, and more

Shoreline restoration includes root wads that provide support for bank revegetation. Overhanging vegetation protects and improves native fish habitats. These features not only create a biodiverse and beautiful area, but also protect against erosion, thus ensuring longevity.

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sewage from homes and businesses to a wastewater treatment plant.

- **Force main** – Part of the wastewater system that uses pressure to move wastewater.
- **Treatment plant** – Facility designed to remove pollutants from wastewater before it is released into local waterways.



The wastewater treatment process

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Heathfield Pump Station

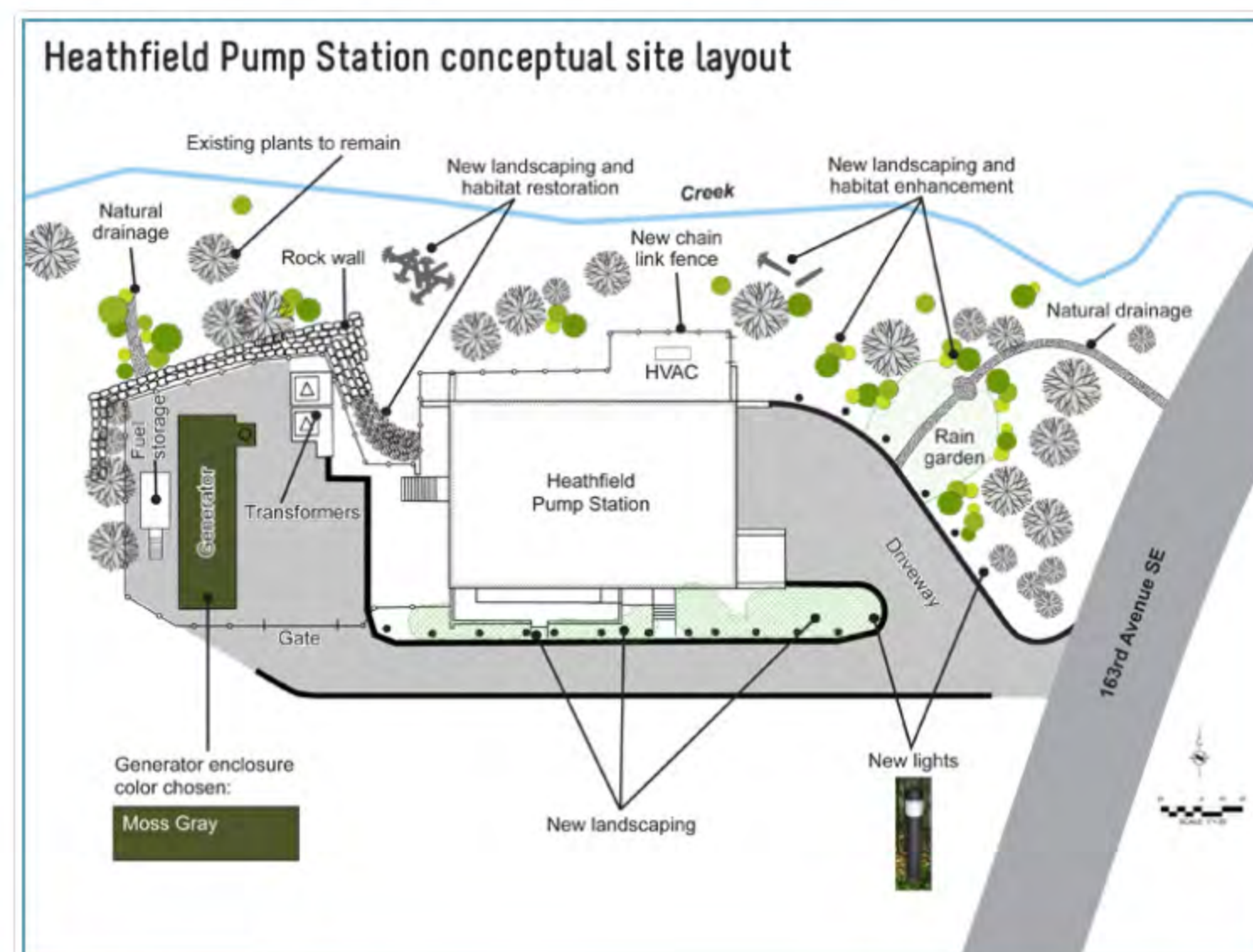
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The Heathfield Pump Station is located at 163rd Ave SE. The final design enhances the natural environment where possible. Key upgrades at the pump station include:

- New pumps
- New bollard lighting
- Habitat restoration
- Rain garden, rockery wall, and cascade drainage swale
- New electrical and controls system
- New standby generator
- New heating and air conditioning systems
- Replaced fencing



Heathfield Pump Station



Heathfield Pump Station site layout

Landscaping features

Pump Station tour



Raw sewage pump – Pumps wastewater through another force main pipe to the Renton Treatment Plant. Will be replaced with new pumps during construction.



Manual isolation gates – Part of the force main pipe and allows wastewater into or out of the pump station.



Motors – The covers on the motors provide sound abatement to help reduce noise.



Variable frequency drives and electrical gear – This equipment provides power to the motors that turn the pumps. Some of the electrical equipment will be replaced during construction.

Terms to Know

- **Pump station** – Facility that pumps sewage from homes and businesses

The project is committed to maintaining and, where possible, enhancing the rich ecology of the area, especially along Vasa Creek. Many existing trees will remain, while existing noxious species will be removed and replaced with strategically selected native species, including:

- Douglas Fir
- 8-10-foot-tall Sitka Spruce
- 8-10-foot-tall Leylandi Cypress
- Shrubs, including Nootka Rose, Salmonberry, Pacific Willow, and more
- Small plants

The design includes habitat enhancement features such as brush and rock piles, which provide nesting and feeding habitat for native birds and other small wildlife.

The Heathfield Pump Station has its own unique habitat and ecological needs. For that reason, the pump station will also include:

- Rain garden
- Cascade drainage swales
- Bat house

A bat house will be installed at the Heathfield Pump Station. Bats serve our region as important pollinators and pest control, thereby improving local ecological health. However, bat populations are declining due to habitat loss and other hazards. A bat house at the pump station will not only help protect valuable wildlife, it will also reduce mosquitos in the summer, and help keep bats from seeking shelter in your home!

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sewage from homes and businesses to a wastewater treatment plant.

- **Force main** – Part of the wastewater system that uses pressure to move wastewater.
- **Treatment plant** – Facility designed to remove pollutants from wastewater before it is released into local waterways.



The wastewater treatment process

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Force Main Pipe

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There are 2 force main pipes that connect the pump stations to King County's larger wastewater system. One of the existing pipes is 12 inches in diameter and the other is 24 inches in diameter. The existing 12-inch diameter pipe will be replaced with a new 24-inch diameter pipe. Construction crews need to use 3 different construction methods to install the pipe:

- Open cut construction
- Trenchless crossing
- Horizontal directional drilling (HDD)

The County identified where these methods should be used along the force main alignment based on soil types, sensitive environmental features, and public right-of-way limitations. Additionally, the County wants to minimize construction impacts wherever possible, and the selected construction methods are likely to cause the least disruption to the neighborhood. However, as with all construction, you should expect some level of impact. As construction gets close, we will share more information about what you can expect and how we will keep you notified about construction.



Force main upgrade alignment

Open Cut Construction

Open cut construction, interspersed with trenchless methods, will be used from 166th Avenue S.E. to S.E. Eastgate Way.

- Requires digging trenches using backhoes and dump trucks
- The work required to connect the pipe is done in the trench before it is filled in and the surface is restored
- Impacts roadways; traffic detours will likely be necessary
- Paving is restored to original condition
- Most common method for installing pipes
- Provides flexibility during construction to work around existing utilities
- Access to driveways will be maintained



Example of open cut construction

Trenchless Crossing

Trenchless crossing will be used under Vasa Creek, and between Heathfield Pump Station and S.E. 34th St.

- A type of subsurface construction work that requires few trenches and avoids sensitive environmental areas
- Minimizes disruption to the surface, including roads and driveways, and can reduce utility impacts



Example of trenchless crossing

Horizontal Directional Drilling (HDD)

Horizontal Directional Drilling (HDD) will be used from Vasa Park to 166th Avenue S.E.

- An underground tunnel is bored along the alignment and the pipe is then pulled into place
- Requires minimal disruption to the surface, including roads and driveways
- Does not require digging trenches along roadways
- Uses drilling rig equipment
- Reduces traffic impacts to West Lake Sammamish Parkway S.E.
- Reduced impacts to utilities
- Reduces impacts to trees and wetlands along S.E. 38th Street
- Requires a large staging area on both ends of the pipe



Example of Horizontal Directional Drilling (HDD)

Getting ready for construction

More detailed information about construction impacts will be shared during a pre-construction open house in spring 2017. Please stay tuned for more information about when the open house will take place.

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Construction and next steps

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Construction is scheduled to begin as early as spring 2017 and expected to end in 2020. While we know at a high-level how construction is likely to impact the neighborhood, we won't have all the details about the construction schedule until we select a contractor for the work. We are committed to sharing information about construction as early as we can so that you and your neighbors can stay informed.

There are opportunities before construction starts for us to share more information about construction, including:

- **Pre-construction survey** – we will collect data on individual access needs and concerns
- **Pre-construction open house** – you can get the initial construction schedule, meet the contractor, and get more specific information about how construction may impact you

During construction, you can generally expect:

- Typical work hours from **9 a.m. to 5 p.m.**, Monday through Friday, with occasional exceptions. Weekend work may occasionally occur between the hours of 9 a.m. to 5 p.m.
- Noise from equipment, drilling and hammering
- Mailbox relocations in areas where construction will block mailbox access
- Increased traffic during temporary lane closures and/or detours due to work and equipment obstructions in the road
- Cones, flaggers, and signs to clearly indicate detours and guide traffic



Anticipated construction impacts

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Envision

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King County recognizes the importance of developing a design that benefits the local community, environment, and economy. This will be the first King County project to pursue an [Envision Program](#) rating to ensure environmental, economic, and equitable sustainability. The Envision program provides a framework to help measure how well an organization incorporates sustainability on infrastructure projects. The criteria of the Envision Program have guided the design process, enabling the project team to make sustainable design decisions. Between now and the beginning of 2017, the team will continue to work towards an Envision Rating of Gold for the Sunset and Heathfield Pump Stations.

Envision is similar to LEED!

(Leadership In Energy and Environmental Design)

How do they compare?

	
—Certifies occupied commercial and residential buildings —Focus on environmental sustainability	—Certifies infrastructure and industrial facilities —Focus on sustainability triple-bottom line: environment, equity, economy

Comparative table of LEED and Envision

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Thank you

Thank you for visiting the [Sunset and Heathfield Pump Stations and Force Main Upgrade Project](#) online open house.

Stay in the loop & sign up for email updates

One of the best ways to stay informed as the project continues is to sign up to get periodic email updates. The team sends approximately one communication a month, which may change once we enter construction next year. You may unsubscribe at any time.

Contact Information

If you would like to remain anonymous, please leave blank.

First name

Last name

Email address



Sign me up for construction updates

Street address

City

State

ZIP

If you have feedback or questions about the project you would like to share, you may edit and submit the notes you've taken along the way here:

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Submit

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