



Coal Creek Sewer Upgrade Project



Coal Creek Sewer Upgrade Project

Online Open House- Fall 2020

King County Wastewater Treatment Division

Draft

Welcome!

You have joined an online open house.

King County's Coal Creek Sewer Upgrade Project team is working on final design of a project to build about 10,000 feet of new sewer line, replacing pipes that have provided service to part of the City of Bellevue and Newcastle for over 50 years.

The Coal Creek Sewer Upgrade team has come a long way to get this point. The team is busy refining the project design and applying for permits. Environmental review is underway, with a public comment period expected in late Fall 2020.



King County works hard to engage project communities throughout our projects. We like to meet our community members where they are at, on site, at community meetings, at fairs and festivals. The coronavirus pandemic has forced us all to adapt to keep people safe.

Since March, we have sent the community newsletter updates and hosted remote community meetings. Now we are following up with on site tours and this online open house.

Self-guided tour of the project area

From October 25-November 25 you can take a self-guided tour of the project area at the Upper West/Red Cedar trailhead. You will find project signs located in the area where the largest amount of construction activity will take place. As you stand there, you can imagine what the site will look like during construction, and what a restored trailhead, trail, forest, and creek will look like.

How to visit this open house

You can navigate by scrolling through the open house, or selecting the buttons above to skip to an area you are most interested in.

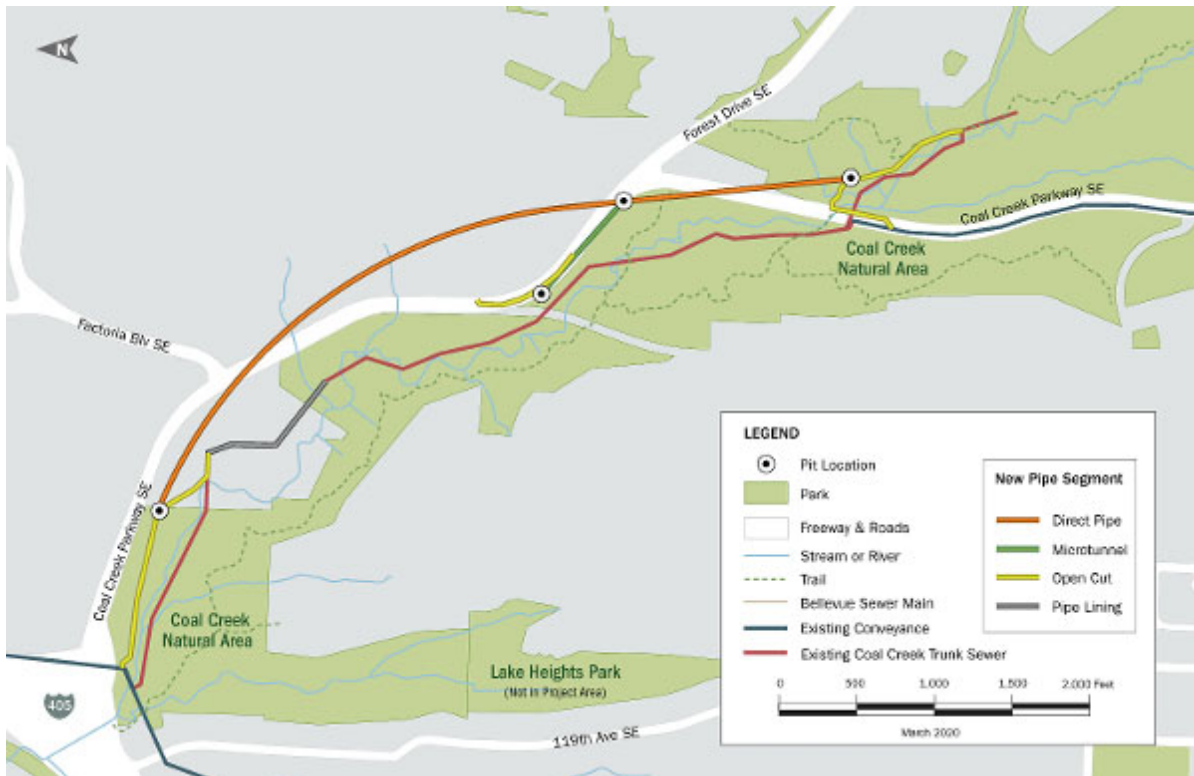
At the end of the open house, you will find options to ask questions, discuss the project, and give input.

You can visit as many times as you like. We welcome your questions and thoughts. Take your time, call us if you would like to discuss the project, and thank you for your participation!

Today's system

The Coal Creek Trunk Sewer includes two sections: south and north. Wastewater flows from south (Newcastle) to north (I-405 area). The north section of Coal Creek Trunk joins the Eastside Interceptor (ESI) pipe near I-405. The ESI carries wastewater to South Plant in Renton for treatment.

King County's project will upgrade the north portion of the pipe. The south section of pipe extending from Newcastle to currently has enough capacity and is not part of this project. This section is shown in the map below, extending along Coal Creek Parkway SE.



This map shows the existing Coal Creek Trunk in light red, running along the creek. New segments of pipe are indicated in darker lines. The dashed lines are trails in the Natural Area.

The Coal Creek Trunk Sewer carries wastewater collected from Newcastle, and picks up flow from Bellevue through several local connections. Wastewater is discharged into the ESI, shown at the lower left on the map.

This project will replace the north section of pipe and connect the new pipe to local lines.

Why King County needs to do this project

The Coal Creek Sewer Upgrade Project will provide needed wastewater capacity to a growing area. About 10,000 feet of new sewer pipe will be installed to serve part of Bellevue and Newcastle. Much of the County's active sewer pipe will be located outside the Natural Area, away from Coal Creek. The new pipe is expected to provide service for decades to come.



This image shows the Coal Creek after a major storm in December 2007. The creek scoured the bank, exposing the pipe, visible underneath the fallen tree.

This project gives King County the opportunity to move much of the active pipe away from flood-prone Coal Creek. Past winter flood events have eroded banks around the pipe, putting both the system and the creek at risk. The County has carried out multiple bank repair projects, most recently in August 2020.



A temporary maintenance hole protection project was completed in August 2020. This structure will be removed as part of the project.

When this project is completed, much of the active pipe will be located deep underground, away from the banks of Coal Creek.

The current project schedule is shown below. This schedule is subject to change. We will continue to provide updates throughout the project.

How we will build this project

In this section, you will learn about types of construction King County's contractor will use to install a new Coal Creek sewer pipe and connections to the local system.

King County's designers face major challenges replacing infrastructure in urban areas. They need to find ways to install essential utilities while considering impacts to the built and natural environment.

Fortunately, construction technologies have advanced along with growing urban populations, giving designers choices to reduce

community impacts while providing vital services.

The Coal Creek Sewer Upgrade will use several construction methods. They fall under two general types of construction: open trench/open cut, and trenchless.

Open trench construction

This is the method most people see in their communities. The contractor digs from the surface to install pipe. This method can work quickly and efficiently when the pipe is close to the surface. The contractor installs shoring, or support systems to keep the excavated area open. Depending on groundwater conditions, the contractor may have to remove water with pumps and hoses to keep the excavation from flooding. Crews install pipe in the excavation, then backfill and restore the surface.

Watch the video below to see how open trench construction works.

Open cut construction



Open cut construction

Trenchless construction

Contractors today install, repair, and replace pipes underground

without digging from the surface. They using *trenchless construction* methods such as drilling, boring, tunneling, and pipe ramming to install pipe underground.

Trenchless construction methods have lower surface impacts to communities, roadways, waterways, and sensitive environments. Contractors can install pipe much deeper below the surface with trenchless construction. Designers choose a trenchless method based on the size and length of pipe, the pipe path, and underground conditions.

//

Industry legend says that trenchless construction was invented in 1971 by agricultural engineer Eric Wood, who was trying to repair a pipe without disturbing a mushroom bed.

This video of another King County project shows you how one form of trenchless tunneling reduces community impacts.

Reducing community impacts during construction using microt...



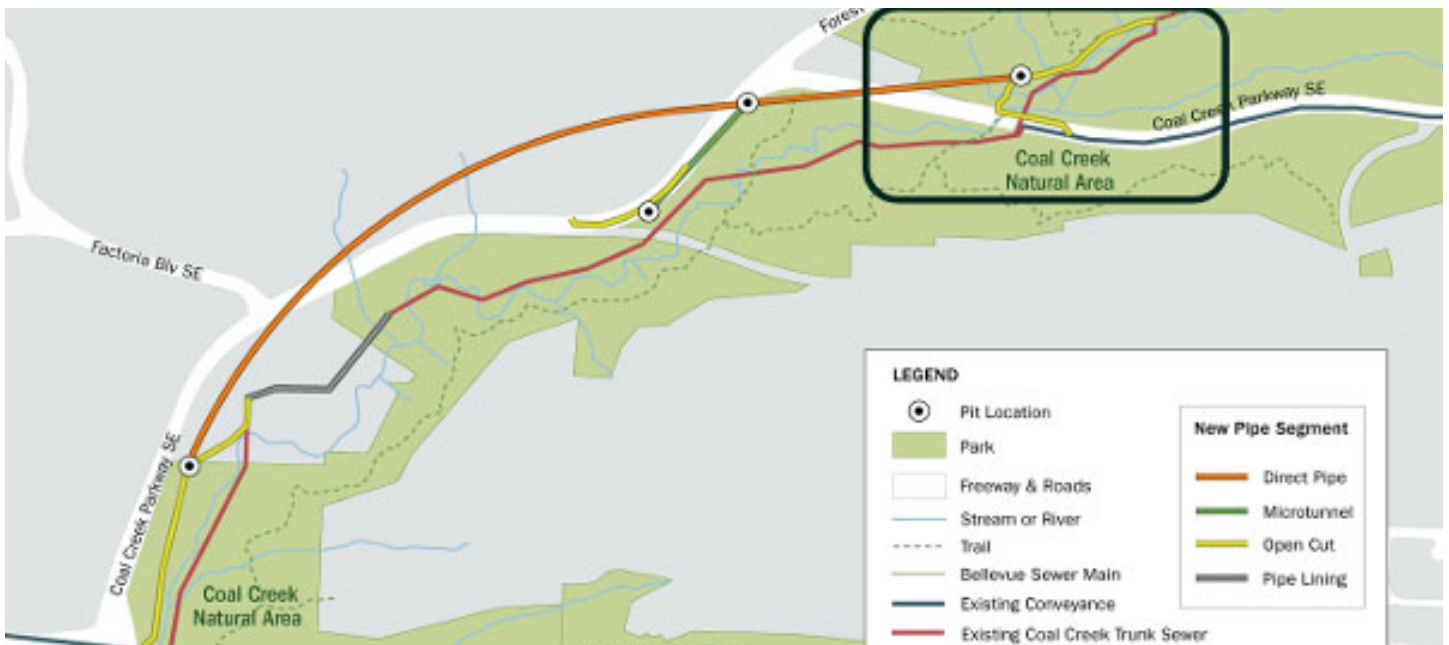
Reducing community impacts during construction using microtunneling

The new Coal Creek pipe will be installed as a "pipe within a pipe" to make repair and replacement easier in the future. The tunneling machine will be used to build a tunnel and install a steel casing. Then the contractor will install the active sewer pipe inside that casing. Trenchless methods can be used to line or replace the pipe.



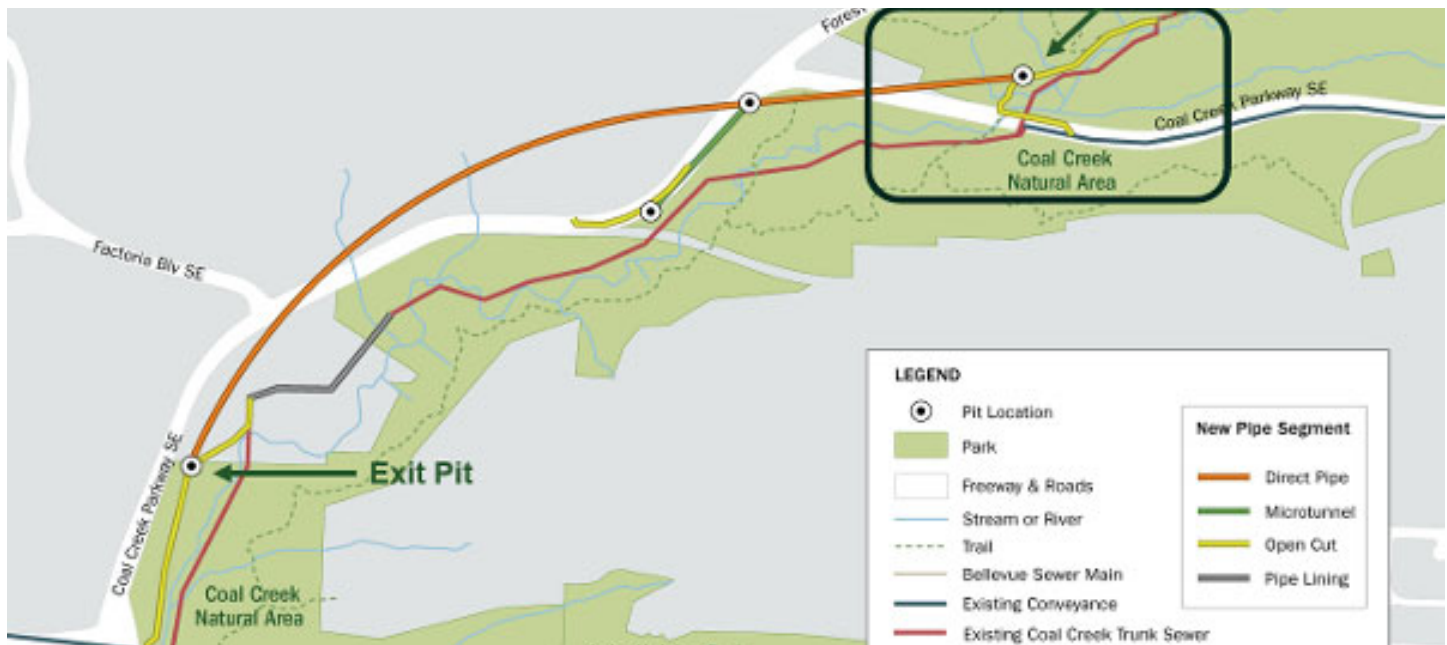
This photograph shows an outer casing pipe and a smaller white pipe inside the casing.

Let's take a tour of the project area and the work people will see.



Construction activities at the Red Cedar Trailhead in the Coal Creek Natural Area are expected to be the most notable for the community. The trailhead will be closed for up to 3 years, with a trail detour around the work area, shown at right.





Trenchless construction methods require an entry, or launch pit, for equipment and materials, and an exit pipe. The launch pit to install the new Coal Creek pipe will be at the Upper West Trailhead. The exit pit will be located off Coal Creek Parkway. The remainder of the Coal Creek pipe path will be installed by open trench methods.



[Image of launch pit from Herrenknecht.](#)

The map at right shows locations of entry and exit pits. The pipe will be installed deep underground. It is unlikely people will notice impacts at the surface along the pipe path.

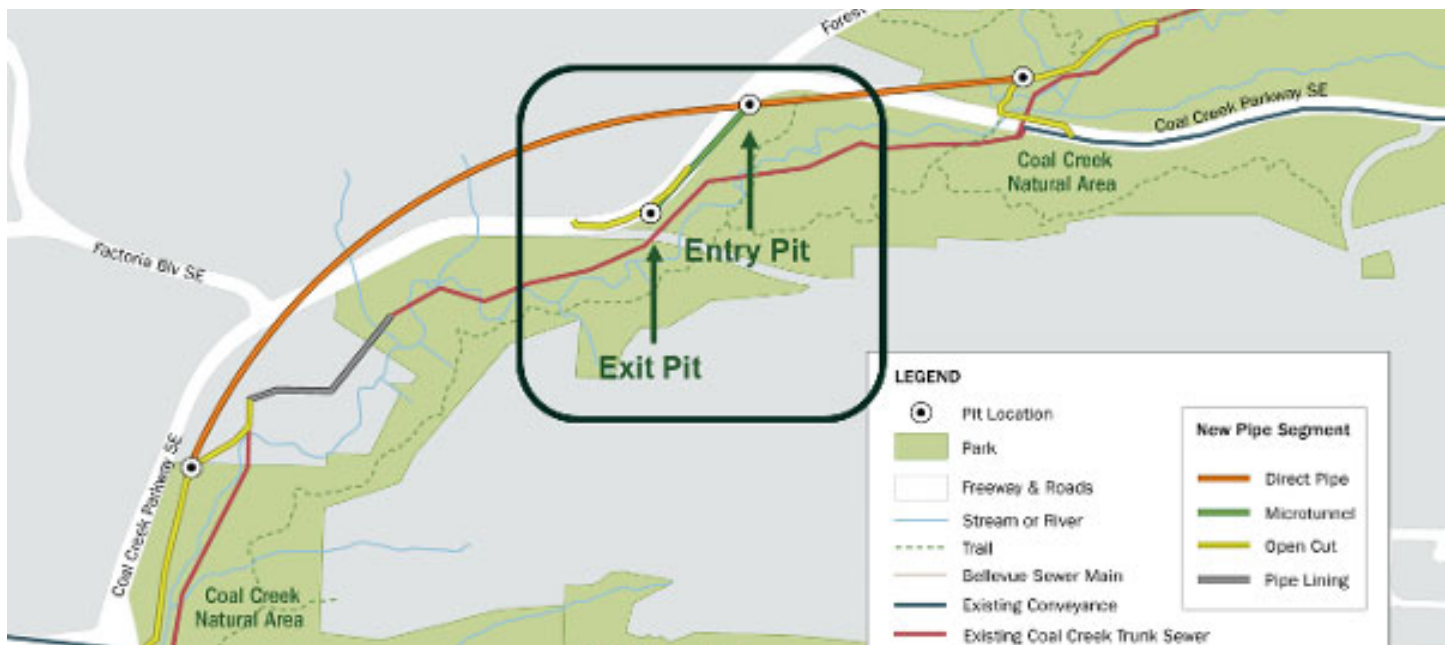


The contractor will make connections between existing Bellevue pipes and the new Coal Creek pipe. On this map, connections are shown as jagged lines meeting the double circle where the new Coal Creek pipe begins. Connections in the Natural Area will require open trenching along a part of the Coal Creek Trail.



The contractor will need to perform in-water construction to install a retaining wall on one narrow section of the trail.

The pipe route crossing Coal Creek Parkway was designed to avoid existing underground infrastructure. This crossing will require one-lane closures on Coal Creek Parkway. The contractor will build this section during work hours approved by the City of Bellevue.



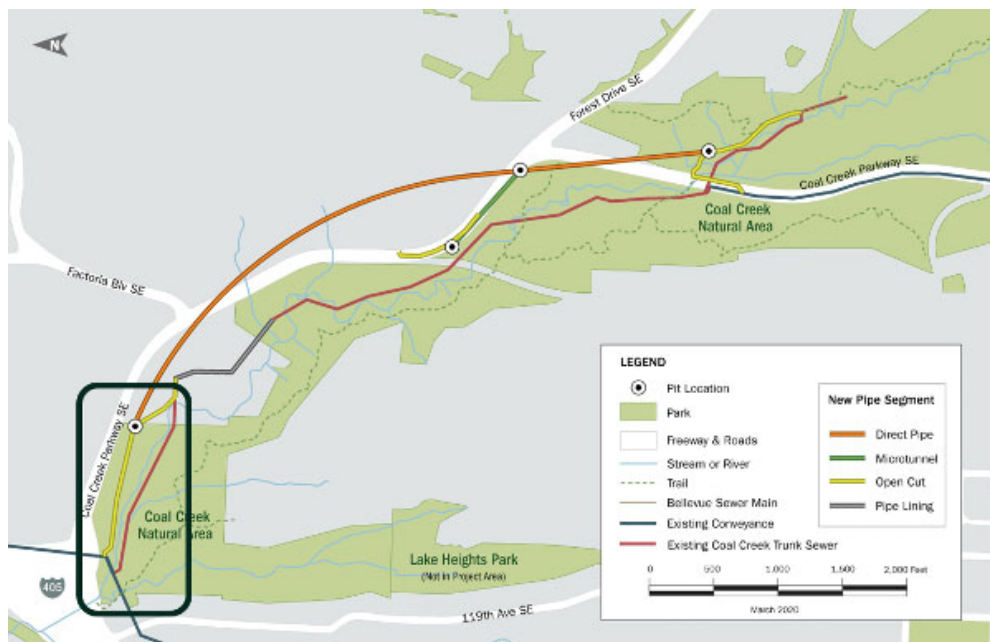
Another connection to the local system will be installed along Coal Creek Parkway. One portion of the pipe will be installed by microtunneling. Entry and exit pits are shown on the map at right.

This work will cause some traffic impacts. People can expect traffic impacts from truck entering and leaving the site, and one lane

closures on Coal Creek Parkway.



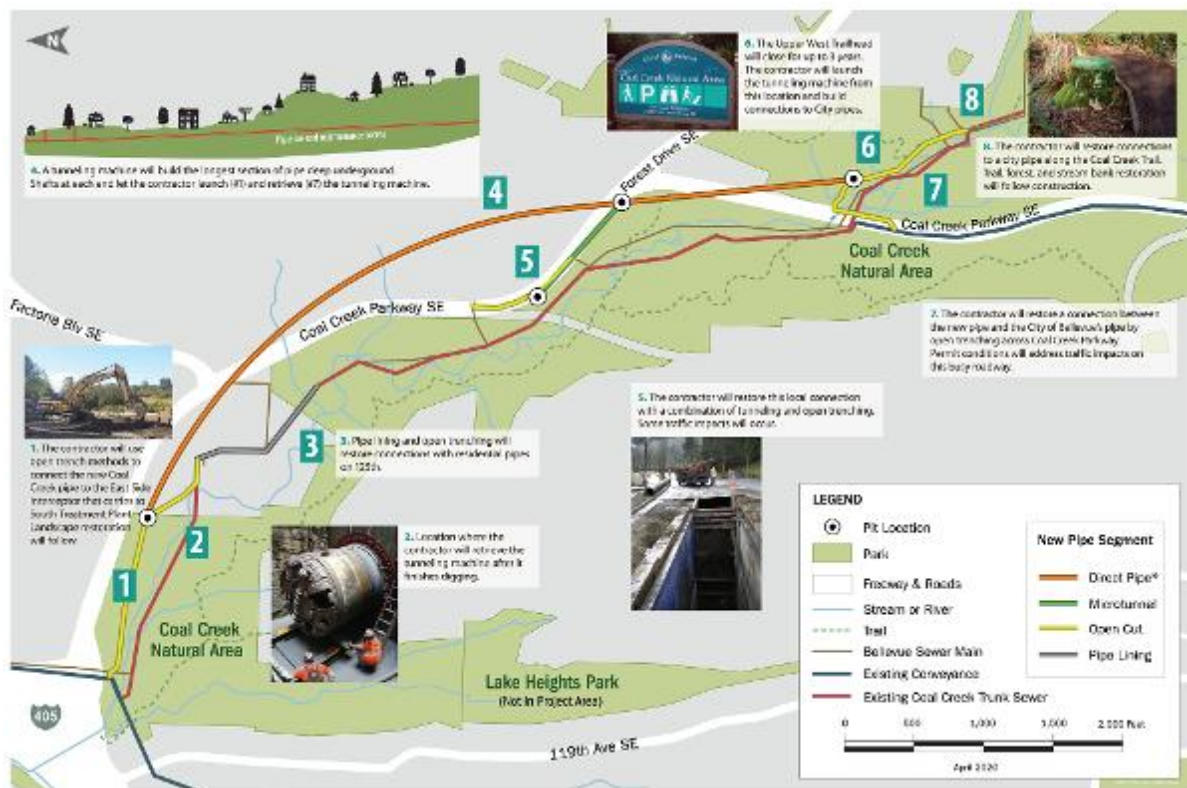
This photo shows a typical microtunneling entry pit.



The final section of the new Coal Creek pipe will be installed using open trench methods. The contractor will enter the area at a utility road and open trench through a wetland area. The contractor will use best management practices to limit impacts to the wetland area.



This image brings all the work together. You can see this is a very large construction project. Let's move on and see how areas will be restored after construction.

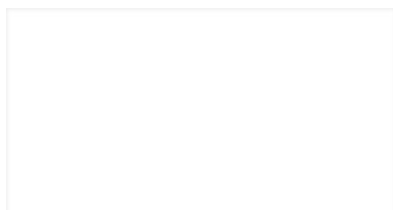


Protections for people and the environment during construction

When King County's contractors are working on parks and trails, they protect visitors by closing work areas. During construction at the Red Cedar trailhead, trail users will be able to access trails through alternate parking and detour around the construction site.



The City of Bellevue's [Well-KEPT Program](#), a summer youth employment program, will construct the trail detour as part of an agreement with King County. This program contributes to youth education, employment, and job skills in the field of park resource management.



The contractor follows approved traffic control plans and work hours. The contractor may request



variations during construction. Variations outside normal construction hours and approved traffic control plans are reviewed and approved by the City of Bellevue.

To make sure that people know what agencies will provide advance notice, we will be on call 24/7 throughout the project. For questions, concerns, and complaints.

Environmental protections are captured in permits and contract documents. King County's Construction Management oversees all work, including work in sensitive areas.

Erosion controls and environmental monitoring will help to protect water quality. Work in Coal Creek will be carried out in permitted work windows to limit impacts to fish. During in stream work, fish will be relocated before work begins in an area.



Biologists responsible for relocating fish can use the opportunity to survey species.

Some trees in the work area will be removed. Other trees close to the work will be protected. Signage, fencing, and even padding can help to protect trees during construction. King County's contractor used protections during the temporary maintenance hole protection project carried out in summer 2020.



Fabric logs, mats, and guards protect the roots and bark of trees along a trail in a work area.

Restoration

Construction will affect trails, streams, wetlands, and roads. Continue reading to see how designers are approaching restoration.

Upper West/Red Cedar Trailhead and trail

Trailhead restoration will incorporate the plan that Bellevue implemented in 2015, with a few additional improvements for accessibility and enrichment.

Today, visitors can find several green stormwater control features that help to protect Coal Creek. All these features will be returned to service once the County's project is complete:

- Pervious pavement at the entrance allows rainwater to soak in, instead of running off toward the creek.
- The rain garden located in the parking lot helps to clean stormwater flowing from the surrounding pavement.
- Native shrubs and trees bordering the lot slow runoff toward Coal Creek.



King County's contractor will restore the trailhead parking area to previous design, including stormwater features like the permeable pavement at the entrance to the parking area.

King County's team plans to install additional signage at the trailhead. Existing trail signage takes visitors on a walk through the area's history. New signage will retain the look and feel of the

existing series, and help visitors engage with and protect this special place.

Project design will incorporate accessible seating like that found in other Bellevue parks so that people of all abilities and ages can relax and enjoy the creek and forest. An accessible bench can replace the existing log bench at the trailhead. New seating may be installed at one or two additional locations in the project area.



The City of Bellevue increased accessibility at the Red Cedar Trailhead in 2015. King County's project can build on those improvements during restoration.

The County's design includes access along the trail for inspection vehicles. Currently, the County's crews can't get inspection equipment down the trail. Once the area is restored with vehicle access, crews will be able to inspect the pipe connecting to Bellevue's system.

Including vehicle access means this section of the trail will be a little wider and flatter. Finishing this section in a firm, finer-grained surface will allow people using mobility devices more opportunity to experience the natural area.

The contractor will extend vehicle access on Coal Creek Trail to

allow for future system inspections. They will build an additional length of trail in the work area, beyond the existing vehicle access. Inspections will be infrequent, and visitors will be provided with advance notice.

Wetlands

Functioning wetlands help control flooding and provide rich habitat for wildlife. Designers have these goals in mind as they plan for restoration. Appropriate soils and native plants will get restored wetlands off to a good start. The County's Mitigation and Monitoring (M/M) Program will take over maintenance for up to ten years after the contractor's work is completed, helping to keep down weeds and set the areas on a sustainable path.

Forests

This project provides an opportunity to improve forest health in work areas. The forest in the Natural Area is dominated by short-lived maples and alders that lose their leaves and go dormant in the rainy season. When the County's contractor restores the work area, we can change that forest makeup by adding evergreen trees.



Evergreen trees like the cedar on the left need sunlight to thrive. Trees like alders and maples can grow quickly, blocking sunlight to evergreens.

Evergreen trees live for generations, far longer than the typical 50-100 year lifespan of deciduous trees. Evergreen trees take up water in our rainy season, when other trees are dormant. Their branches shade waterways, helping streams stay cool for fish. The branches slow falling rain in the winter, reducing erosion and runoff. Birds and animals find shelter and food in evergreens.



Visitors see the remnants of giant evergreen trees that once made up the forest around Coal Creek.

The County's M/M Program team will oversee establishment of forested areas during the permit period, controlling weeds and making sure that trees and understory have a chance to thrive.

Streams

Design includes a retaining wall and streambank restoration along the trail where the County's pipe will extend to maintain local sewer connections. These features will help to protect the trail and underground pipe during floods while maintaining natural stream flows for fish.



Along the trail, you will find a steep, narrow area where the creek bends toward the trail. After construction, a retaining wall and streambank restoration will protect the trail and remaining active pipe. *Image taken in 2019, prior to social distancing guidelines.*

Stream restoration in affected areas will help to maintain natural stream flows for fish. Restoration design is reviewed and approved by permitting agencies.



A coho salmon makes its way upstream to spawn after release into Coal Creek in fall 2019.

How you can participate

Despite the challenges we all face at this time, King County wants to make sure you have a chance to request additional information, ask questions, and share your thoughts and comments. Here are some ways you can participate:

Share your thoughts

- Answer survey questions about the information in this open house and share your thoughts.
- Visit the project website, find past communications, and sign up for updates. Please let us know if you need materials translated.
- Request a remote meeting or briefing for your community group or organization.
- Let us know if you would like to discuss the project through an interpreter.
- Contact us: call Monica Van der Vieren at 206-477-5502 or email at monica.vandervieren@kingcounty.gov.

Coal Creek Project Web page



Powered by ArcGIS StoryMaps