

CLEAR CREEK FLOODPLAIN RECONNECTION PROJECT Frequently Asked Questions

The Clear Creek floodplain area is more than 1,000 acres in size and located within unincorporated Pierce County. An aerial showing the Clear Creek area is available [here](#).

Pierce County and Floodplains for the Future—along with its farming, floodplain management, and habitat committees—have been working on numerous initiatives to improve conditions in the Clear Creek area, including the following:

- The [Farming in the Floodplain Project](#) has completed studies on farmland impacts, drainage, sediment, and flood risks, and has begun work on various projects that address agricultural drainage needs.
- Agricultural lands conservation is underway in the Clear Creek area and the broader Puyallup watershed. This work is led by the Strategic Conservation Partnership, a collaborative group of organizations in Pierce County that hold conservation easements.
- Some frequently flooded properties have been purchased. Purchases of property from willing landowners will continue.
- The fish habitat group is studying conditions and ecosystem functions and developing a plan to guide future restoration activities in the Clear Creek area.

Pierce County is currently working to engage the Clear Creek community to develop a [Strategy Plan](#)—a long-range vision and framework to improve conditions related to flooding and drainage, agriculture and land use, social challenges (such as homelessness, illegal activities, and impacts to local character), and fish habitat and ecosystem functions.

The following are some questions asked by community members about the Clear Creek Floodplain Reconnection Project. If you have other questions, let us know so we can provide answers.

How do the Clear Creek Floodplain Reconnection Project and the Clear Creek Strategy Plan complement each other?

The Clear Creek Floodplain Reconnection Project was identified in the 2013 *Pierce County Rivers Flood Hazard Management Plan* to help alleviate flooding in the basin. The primary goals of this project are to relieve flooding issues of the lower Puyallup area of Riverside and the Clear Creek floodplain, restore natural river and stream processes, and improve habitat for species identified by the Endangered Species Act. This project is expected to take at least 10 years to complete. The first phase is focused on property acquisitions from willing sellers in the area.

The [Clear Creek Strategy Plan](#) is intended to be a more comprehensive framework that would encompass and build upon the Clear Creek Floodplain Reconnection Project and the other projects and studies that are ongoing in the Clear Creek area. The Strategy Plan would be a flexible guide for decision-making and provide a long-range perspective for the area. For that effort, Pierce County is supporting a facilitated process in which community members, tribes, and other interested parties can reach a common understanding of the problems and values in the area, in order to determine possible projects, studies, and processes that could move forward.

What are floodgates and what do they do?

CLEAR CREEK FLOODPLAIN RECONNECTION PROJECT Frequently Asked Questions

Underneath SR 167 (River Road) there are two large box culverts with gates located on the downstream end of these culverts. The newer floodgate is owned and maintained by the Port of Tacoma. It has a modern design with a jack screw and electric motor, operated by sensors that tell it when to close and open. The other floodgate is a simple flap gate with a hinge at the top. When the river rises, the water pressure closes this floodgate. It is unknown who owns this second gate; currently, Pierce County is working with stakeholders to determine ownership.

The floodgates were installed to protect the neighborhoods and farmland from the Puyallup River when it floods. As the river drops, the floodgates gradually open and Clear Creek can resume draining into the river. Because the creek cannot drain when the floodgates are closed, surrounding properties are flooded because the river backflows into the creek.

Would a new levee system be more expensive than maintaining the two gates?

Yes. However, buying properties from willing sellers and potentially building a new levee system or improving existing levees to prevent the river and creek from flooding other properties in the future is a more viable and cost-effective plan. Otherwise, the community maintains the cycle of disrupting people's lives every few years with evacuations and the resulting flood damage repairs and costs. These and other options are being examined during the Clear Creek Strategy Plan development process. At this time, a decision has not been made that a new levee would be built, although it is possible this will be considered as the project moves forward.

What is happening with the levee along River Road?

The levee along River Road will remain to protect infrastructure and property and may be modified in the future to increase its capacity to contain a 200-year flood.

We are concerned that building a levee system behind a decertified levee seems dangerous. Where can we learn more about this?

The Puyallup River levee is functional, but is a non-accredited levee that currently does not provide freeboard during a 100-year flood. This means that while the levee can contain the water from a 100-year flood, there is no margin of error. Any new potential levee system would be constructed to allow water on the back side of the levee to pass through in one direction at certain determined points.

Although the probability of the River Road levee being overtopped by the Puyallup River is low, the Clear Creek Floodplain Reconnection Project will consider that risk in any potential future designs of other levees. The Riverside area flooding has, historically, occurred from Clear Creek backing up, most recently in December 2015.

What happens to property values in the Clear Creek area after the Puyallup River is recertified as a levee?

Pierce County is not qualified to answer this question. A professional realtor or other real estate expert would be able to answer this question.

CLEAR CREEK FLOODPLAIN RECONNECTION PROJECT Frequently Asked Questions

There was discussion about pump stations that would pump water out of agricultural fields. Is this still a possibility?

The previous discussion about pumping revolved around including a way for farmers to pump water from their agricultural land. Moving seasonal surface water off land would require significantly smaller pumps than those needed for a pump station for the Clear Creek area.

A pump station was considered during the development of the 2013 *Pierce County Rivers Flood Hazard Management Plan*, but was determined infeasible due to the cost of the pump that would be required and the possibility of pump failure during flooding. Engineers used cost comparisons of a similar-sized pump station, which was designed to move 39 cubic feet per second (cfs) of water at a cost of more than \$5 million (in 2004). A station in Clear Creek would need to pump between 500 to almost 700 cfs. If built today, the price of such a pump station could cost more than \$50 million. Maintenance costs for the life of the pump station would also be substantial. Additionally, this is a mechanical solution, which can be, to some extent, unreliable during an emergency and would be difficult to permit.

Pumps of a similar size are used extensively in cities such as New Orleans. These pumps are part of the system that failed and caused catastrophic flooding following Hurricane Katrina in 2005 when residents lost power and the area became inundated with water. The costs of repairs to those homes and property would continue. Pump stations are not typically supported by granting agencies because the pumps are not fish friendly.

Is the eventual plan to remove ALL homes from the area, or just low elevations—residents have been receiving very mixed messages.

Pierce County is focused on buying homes from willing sellers, specifically those properties closest to the creek and in the lower elevations that are subject to frequent flooding. Some frequently flooded properties have already been purchased to move people and property out of harm's way. There is no plan to buy all the homes in the area; where homeowners express an interest to sell, the homes most at risk of flooding are bought and removed.

How will this affect development rights and property values? What about the fee base for the Drainage District and Fire District?

Development rights will remain the same unless the county council approves changes to Pierce County Code. If you would like more information about development rights in this area, please contact Pierce County Planning and Land Services at 253-798-7210.

As for property values, Pierce County has not seen buyout programs affect property values or private-party sales. Pierce County purchases property at fair market value, using independent appraisers, and waives several expenses typically associated with a property transaction, including inspection and closing costs. This provides higher compensation to the property owner than a typical private sale. When Pierce County purchases property to reduce flood risk, any fees for the parcel are still paid to the Drainage District and Fire District by Pierce County.

How will Pierce County's Surface Water Management (SWM) Division be communicating with landowners about important information? What is the best way to keep up-to-date on the myriad activities the SWM Division is planning?

Pierce County wants input from the community about how residents would like to receive

CLEAR CREEK FLOODPLAIN RECONNECTION PROJECT Frequently Asked Questions

communication. For example, in other parts of the county, the neighbors prefer email communication while other neighborhoods like to receive information via postal mail. Pierce County has a website for the Clear Creek project (<https://www.co.pierce.wa.us/3321/Clear-Creek-Flooding>) that is updated as new information is available. Pierce County is also working to engage the community in the Clear Creek area to develop a Strategy Plan, and a website for that effort is available at <https://www.piercecountywa.gov/4574/Clear-Creek-Strategy-Plan>. Residents are also welcome to contact the project manager by email or phone if they have questions.

Can we have more details about the number of flood occurrences, evacuations, and number of homes involved in Clear Creek flood related activities over the past 10 to 20 years. Where would we find more data?

The Clear Creek area has experienced significant flooding six times in the last 15 years. The most recent flooding was in December 2015. Many homeowners had to evacuate their homes in November 1990, February 1996, November 2006, and January 2009. Between 1990 and 2012, there were eight presidential national disaster declarations due to flooding damage across Pierce County. These declarations provided federal funding for cleanup, repairs, and property acquisitions from willing sellers.

This cycle has occurred many times in the last few decades. The consequences resulted in resident evacuation and a great deal of expenses put toward repairing flood-damaged properties. Many residents in the area have sold their land to Pierce County after living through floods in the last two decades. Additional data are available in the *Lower Puyallup River: North Levee Setback Hydraulic Modeling and Clear Creek Floodplain Reconnection Hydrologic And Hydraulic Modeling Final Report* (March 2015).

What is the timeline for Pierce County's work on farmland-related planning?

Ensuring agricultural viability in the Riverside/Clear Creek area is a priority for Pierce County. Working with farmers and agricultural support groups, Pierce County wants to maximize the land purchased as part of the project for agriculture use and work collaboratively to improve the conditions in the area for ongoing agricultural viability. This partnership will take time, as many variables and issues are addressed, but these values will be incorporated into the current process. The [Farming in the Floodplain Project](#) is a working group of Floodplains for the Future, a partnership of public, non-profit, and private stakeholders working to balance farm, fish, and flood control values in the Puyallup, White, and Carbon rivers. This project is focused on increasing the understanding of agricultural viability, analyzing the impact of proposed changes to flood and hydrology systems on farmlands (as well as farm businesses and farmers), and working toward agricultural drainage improvement in the Clear Creek area and in the greater Puyallup watershed.

Is it true that Pierce County is working with data from the 1980s?

Pierce County uses data from a variety of sources including information from the federal government. Information for the development of the flood insurance rate maps was developed in the 1980s. While some of that data remains useful, Pierce County has conducted its own studies or collaborated with state and federal agencies to develop new data and studies. The Clear Creek project was proposed as part of the 2013 *Pierce County Rivers Flood*

CLEAR CREEK FLOODPLAIN RECONNECTION PROJECT Frequently Asked Questions

Hazard Management Plan, and a new hydraulic and hydrologic model for the Clear Creek floodplain reconnection was completed.

Does the 2013 Pierce County Rivers Flood Hazard Management Plan to do anything to address properties that pollute Clear Creek?

Pierce County's SWM Division responds to calls about surface water pollution. If you see surface water pollution occurring (someone dumping liquids down a storm drain, for example) you can call 253-798-2725 and report the issue.

Is there any chance that brackish water will get into the Clear Creek area?

Based on studies from the early 2000s, we know that at tides of 12 feet and greater, the saltwater wedge can reach up the Puyallup River as far as the mouth of Clear Creek at river mile 2.9. The highest tide recorded in the Port of Tacoma is 15.49 feet. However, the relationship between tidal elevation and salinity levels in the lower Puyallup River changes with Puyallup River and Clear Creek flow rates. There have not been any studies to measure saltwater concentrations in the Clear Creek area, but the Floodplains for the Future partnership plans to collect salinity data in 2019. Gauges currently recording water elevation data show the effects of tidal backwater into Clear Creek on a regular basis, as far upstream as Gay Road. Because freshwater is less dense than saltwater, it floats on top; thus, it is likely that water traveling upstream as far as Gay Road is mostly freshwater and is the result of Clear Creek water not being able to flow out of the River Road culverts during high tides.

What are drainage tiles, and how can they be made more functional?

Drainage tiles are pipe sections installed years ago by farmers and maintenance workers to help with surface water drainage. Regular maintenance will help improve their ability to carry water off property.