# The I-405 Master Plan Early Environmental Investments

The I-405 Master Plan, which was developed by citizens, elected officials, and local governments along the corridor acknowledges that environmental stewardship is important and commits to leaving the environment better than we found it. The Springbrook Wetland Mitigation Bank is an effort to live up to that commitment. The team is currently working with jurisdictions to identify sites such as Springbrook that have potential for early development of mitigation projects that will offer the most environmental benefit for the dollar.

**Engineered Flow Control**
Example: stormwater detention pond

## Watershed Approach to Mitigation as an Early Environmental Investment

Another innovative approach to environmental stewardship that is being considered as part of the I-405 Master Plan is the use of wetlands restoration sites for watersheds.

Building new lanes on I-405 will create additional surface water runoff that must be captured and cleaned. In the past, stormwater detention ponds, such as the one pictured top right, have been used. Stormwater detention ponds capture and store water runoff before it reaches a stream system. While methods like this manage water quality and quantity, they are expensive to build, focus on minimizing negative impacts, and provide only the minimal required benefits.

**Restoring Natural Flow Control**
Example: wetlands restoration

A better potential solution is to create a wetlands restoration site, pictured below right. Capturing surface water upstream from the highway and detaining it in a more natural environment focuses on maximizing positive impacts to the watershed and an achieve additional environmental benefits at the same or less cost. WSDOT is employing this new approach on a variety of highway projects throughout the State.

***What is meant by the "watershed approach" to mitigation?***

*New watershed characterization methods integrate the mitigation of wetland, riparian, floodplain, and stormwater impacts by restoring the landscape's capacity to provide necessary functions, while increasing the environmental benefits.*

## What are the benefits to a watershed approach to mitigation?

- Targets environmental improvement investments to those areas that will have the greatest long-term environmental benefit (vs. providing short-term spot treatments)
- Addresses how the watershed is functioning as a whole, rather than looking solely at the impact site and making minor improvements
- Provides opportunities to restore natural processes, making the watershed more biologically productive and reducing long-term maintenance costs around streams and wetlands.
- Uses resources more efficiently. The I-405 project team is conducting cost-benefit analyses on conventional vs. alternative mitigation options



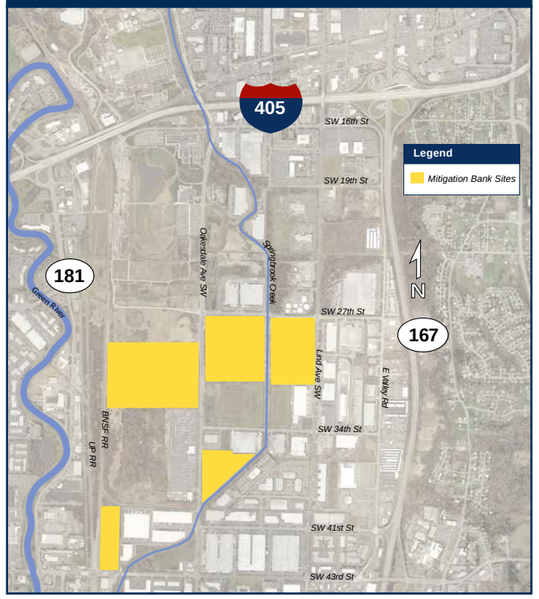


# Springbrook Creek Wetland & Habitat Mitigation Bank

## What is the Springbrook Creek Wetland and Habitat Mitigation Bank Project?

WSDOT and the City of Renton launched an innovative partnership to re-establish and enhance over 130 acres of wetlands in the Renton area addressing the effects of development within the city and from WSDOT transportation projects. WSDOT and the City of Renton are building an interpretive trail throughout the site to educate the public on the benefits of wetlands and the habitat they support.

**Springbrook Mitigation Sites**




## What is Wetland Mitigation Banking?

Mitigation banking has been defined as wetland restoration, creation, enhancement, and in exceptional circumstances, preservation undertaken expressly for the purpose of compensating for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial. 1995 Federal Guidance on Wetland Mitigation Banking (U.S. Army Corps of Engineers 1995)

## Why is WSDOT creating this wetland mitigation bank now?

Springbrook Creek Wetland and Habitat Mitigation Bank is an early environmental investment (EEI) project. The Springbrook Creek Wetland and Habitat Mitigation Bank will provide mitigation for highway construction and city development projects prior to the impacts on wetlands and other aquatic resources.

## The End Result

The Springbrook Creek Wetland & Habitat Mitigation Bank Project will enhance 110 acres of wetlands and buffer, restore and create a larger connected 20 acres of wetland; totaling 130 acres of wetlands. Thousands of native plants will be planted over the entire project site; including black cottonwood, pacific willow, sitka spruce, western red cedar, snowberry, douglas-fir, and big-leaf maple. These trees, shrubs and plants will attract and create habitat for many different species of wildlife.

**Project Timeline**

- Scarsella Brothers was selected as the primary contractor to build this project in 2006.
- Construction kick-off event held Dec. 7, 2006.
- Construction begins Spring 2006. Project completion expected 2009.

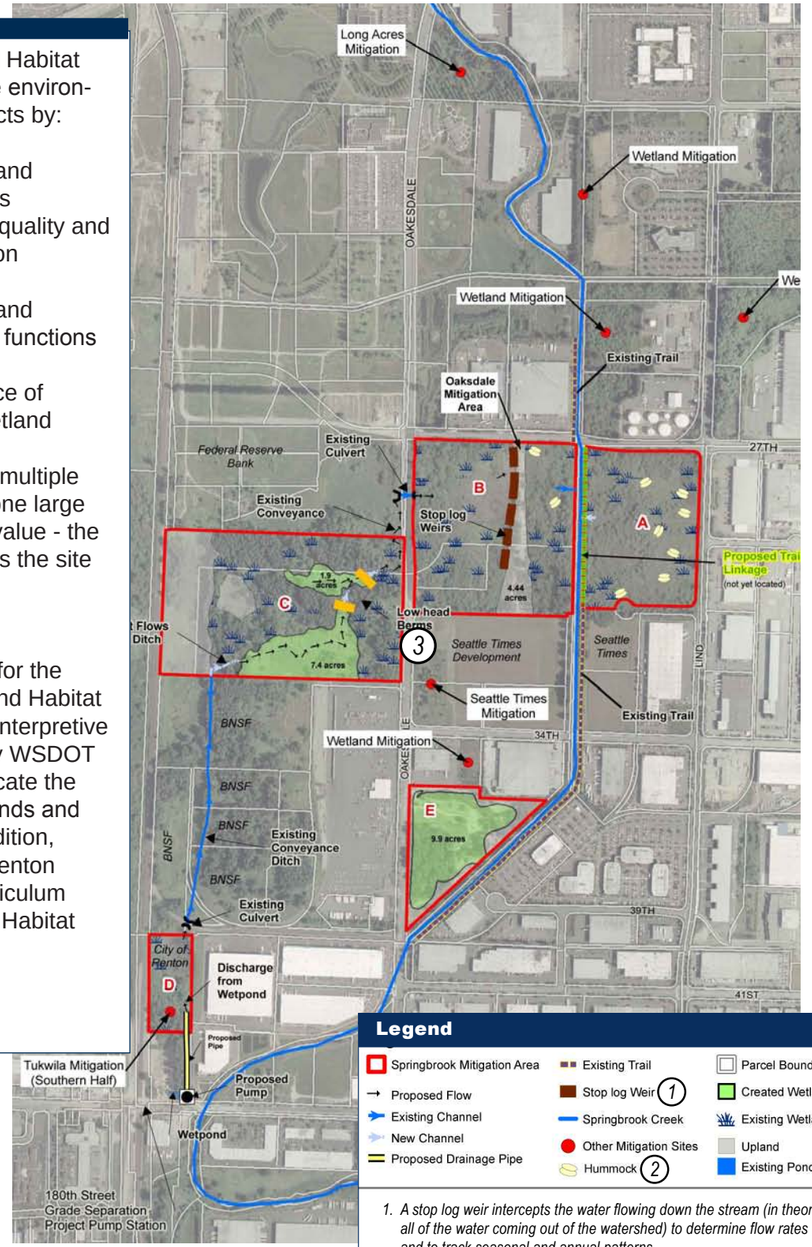
# Springbrook Creek Wetland & Habitat Mitigation Bank

## *An improvement to the environment*

The Springbrook Wetland and Habitat Mitigation bank will benefit the environment and transportation projects by:

- Increasing habitat diversity and developing habitat conditions
- Potentially Improving water quality and enhancing hydrologic function
- Removing wetland fills
- Improving riparian (strip of land adjacent to a body of water) functions in a highly urbanized area
- Setting up the site in advance of project development and wetland impacts
- Consolidating mitigation for multiple small wetland impacts into one large site with greater ecological value - the value of the site increases as the site matures.

The map shows the planned environmental improvements for the Springbrook Creek Wetland and Habitat Mitigation Bank including the interpretive trail that will be constructed by WSDOT and the City of Renton to educate the public on the benefits of wetlands and the habitat they create. In addition, WSDOT is working with the Renton School district to create a curriculum revolving around wetland and Habitat restoration.

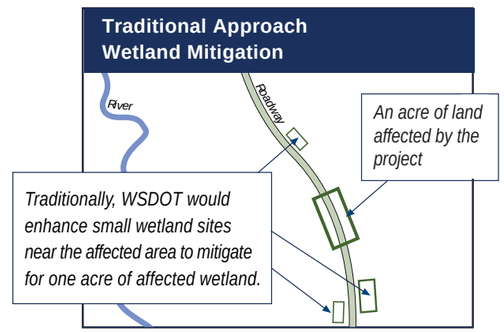


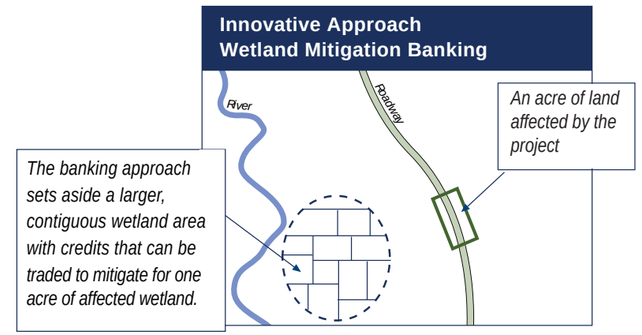

1. *A stop log weir intercepts the water flowing down the stream (in theory, all of the water coming out of the watershed) to determine flow rates and to track seasonal and annual patterns.*
2. *Hummocks are small, rounded or cone-shaped, low hills that provide refuge for habitat.*
3. *Low head berms are mounds of dirt and plantings on the banks of rivers and wetlands.*

# The Mitigation Banking Approach

"Mitigation banking projects like Springbrook provide a basis for early collaboration among transportation and environmental staffs, the public, and regulatory agencies to explore areas wher impacts must be avoided and identify areas for mitigation investments. This can lead to mitigation strategies that are both more economical and more effectie from an environmental stewardship perspectie than traditional project-specific mitigation measures."
*-FHWA Gidance (February 2005) "Linking the Transportatin Planning and National Environmental Policy Act (NEPA) Processes"*

The following graphics demonstrate the difference between the traditinal wetland mitgation approach and the innovative wetland mitgation approach.




### How do costs for the traditional approach to wetland mitigation compare to costs for the Springbrook Wetland Mitigation Bank?

With the traditional approach (above left), it would cost WSDOT $2 million to provide mitigation for one acre of affected wetland.

Using the Springbrook Wetland Mitigation Bank approach (above right), it would cost WSDOT $650,000 to provide mitigation for one acre of affected wetland.

Here's how the Springbrook Bank approach saves taxpayer dollars:

- Acquiring a permit for, establishing, maintaining and overseeing one large wetland is much less expensive than creating several smaller wetlands with separate permits, maintenance and oversight needs.

- Because the City of Renton contributed 130 acres of contiguous wetland to the project, WSDOT does not have to undergo the costly and time consuming process of acquiring private property.