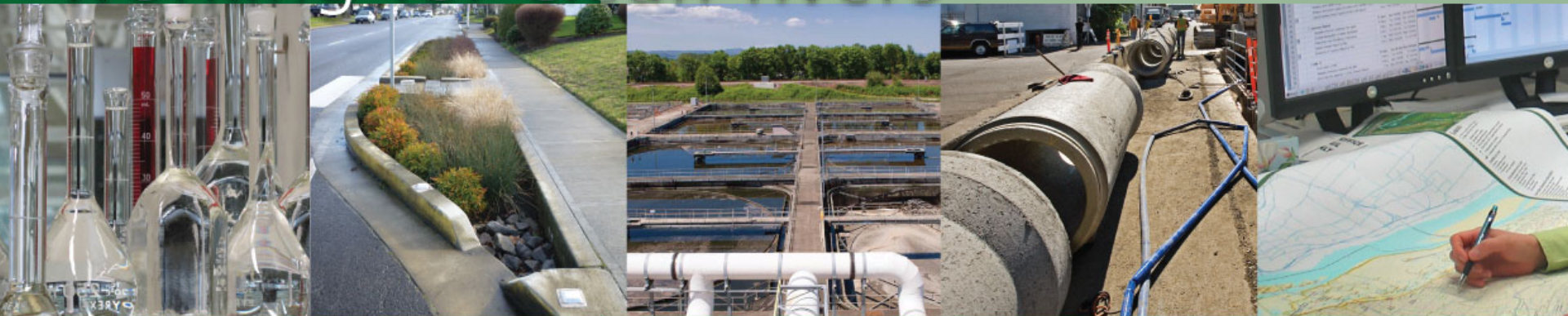


working for clean rivers



Council Item #945 **SE Powell Sewer Reconstruction and** **Green Streets**

Scott T. Gibson, P.E., Principal Engineer

Brandon Wilson, P.E., Engineer

Bureau of Environmental Services

September 9, 2015



ENVIRONMENTAL SERVICES
CITY OF PORTLAND

NICK FISH, COMMISSIONER
MICHAEL JORDAN, DIRECTOR

Background

- Part of the Integrated Tabor to the River Program to relieve sewer backups and rehabilitate pipe.
- Vegetated surface infiltration facilities are used to cost effectively reduce stormwater volume and eliminate pipe upsizing.

Working Together for a Cleaner Willamette and Watershed Health

Continued from front

More Green Streets and Sewer Improvements
Environmental Services begins construction this summer on another Tabor to the River project area: the Clinton Street Project. The project will replace over 3,800 feet of public sewer pipes that are more than 100 years old. The work will include building 24 green street stormwater planters that will collect an average of 1.8-million gallons of stormwater runoff annually.

Combining green streets with sewer improvements reduces basement backups, manages stormwater more naturally and restores watershed health.

Go to www.portlandoregon.gov/bes/TaborToRiver for a complete list of Tabor to the River Program projects and updates.

New Projects
Environmental Services is also planning new projects in neighborhoods next to the Tabor to the River area to improve sewer service with a tested mix of green streets, trees, rain gardens, sewer repairs and community partnerships. The map on the right shows upcoming projects. Contact Rhett Drennan for more information at Rhett.Drennan@portlandoregon.gov with Alder in the subject line.

Mt. Tabor partners add native plants and remove invasive plants
The Mt. Tabor Park Invasive Plant Control and Revegetation project, a part of the Tabor to the River program, is a partnership between Environmental Services, Portland Parks & Recreation, the Portland Water Bureau and the Friends of Mt. Tabor Park. The partners have removed invasive plants from 66 acres and planted over 31,000 native shrubs and trees in Mt. Tabor Park natural areas since 2010.

Go to www.portlandoregon.gov/bes/mttabor for more information.

YOU CAN GET INVOLVED
Neighbors and organizations working together get more done and stretch limited resources. The Tabor to the River Program expands a Portland tradition of community partnerships and environmental stewardship across generations. Whether you like to plant trees with Friends of Trees, tend your local green street, build a rain garden, create backyard habitat or learn how to fight the spread of invasive weeds, you can find lots of ways to get involved at www.portlandoregon.gov/bes/TaborToRiver.

Private Property Partnerships
The Tabor to the River Private Property Retrofit Program worked with property owners to construct 72 rain gardens and other stormwater management projects on private residential and commercial properties in key locations. These projects manage stormwater runoff from more than three acres of rooftops and parking lots.

To date, more than 50 private properties are treating stormwater runoff from three acres of hard surface.


Environmental Services reached out to property owners in key areas where green streets alone couldn't remove enough water from the sewer system to reduce basement backups.

Western Seminary at SE 55th and Hawthorne is in one of those key areas. Environmental Services partnered with the seminary to construct two vegetated stormwater planters and three vegetated stormwater basins on the four-acre campus. The facilities manage more than half a million gallons of stormwater runoff a year from roof and paved areas.

The partnership with Western Seminary improves sewer system function, enhances watershed health and improves campus aesthetics.


Community response to the Private Property Retrofit program has been overwhelmingly positive. All of Environmental Services' partners are pleased with the results of their projects. Go to www.portlandoregon.gov/bes/61504 for more program information.

The City Green blog posts Tabor to the River Program news, stories about green infrastructure around the city, and environmental news. www.portlandoregon.gov/bes/CityGreen



PROJECT AREAS
Completed
In progress
Projects coordinated with Tabor to the River

Go to www.portlandoregon.gov/bes/TaborToRiver for a complete list of Tabor to the River Program projects and updates.



Contractors plant native plants at Mt. Tabor Park.





Photo courtesy of the Mt. Tabor Board of Directors

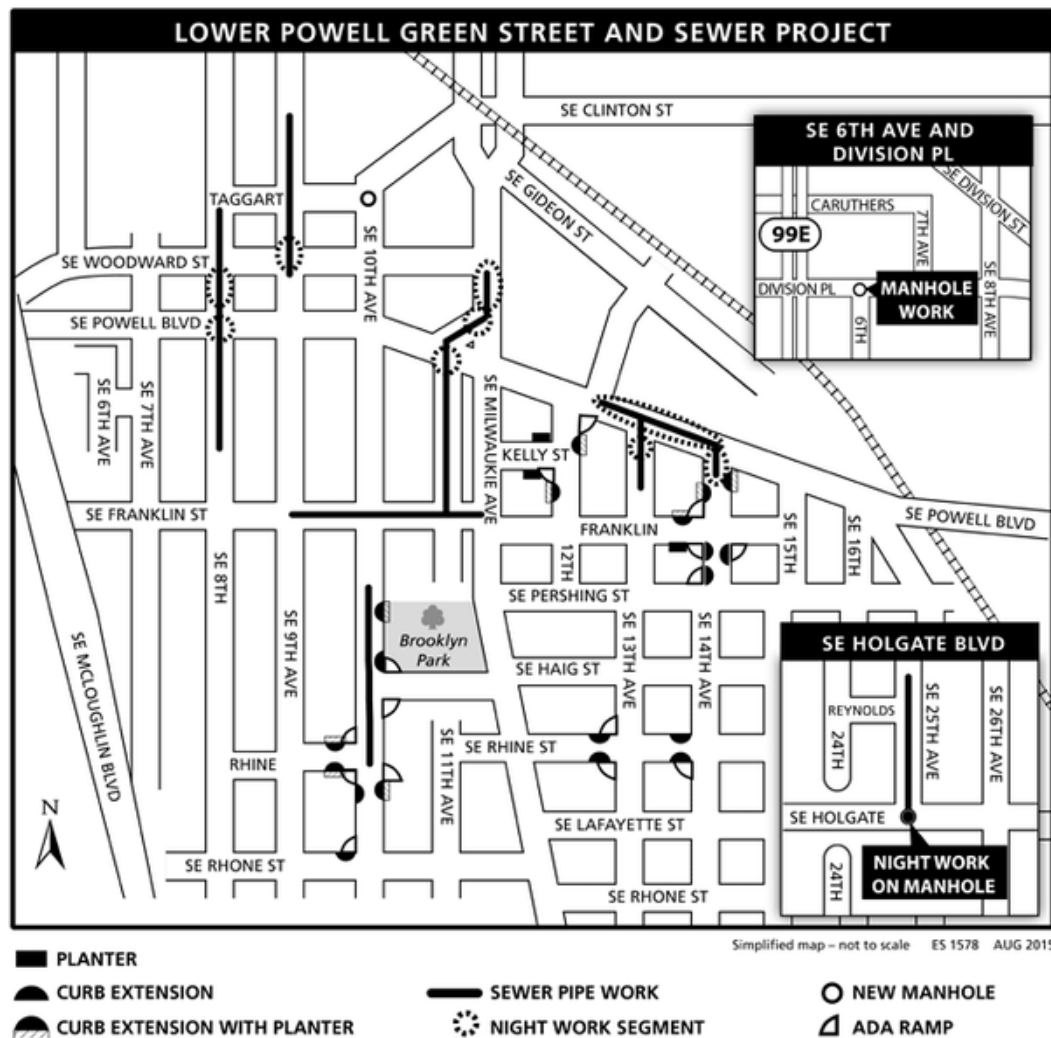
Mt. Tabor Wood Stairs are currently closed to invasive weeds in the park.



This stormwater planter on the Western Seminary campus captures pollutants from parking lot runoff.



Project Location




Project Goals and Objectives

- Recommended in the Taggart D Pre-Design (BES 2007).
- 4,500 LF of mainline pipe from 8" to 30" in diameter for under capacity, poor condition including two sewer extension mains.
- 22 typical stormwater infiltration facilities.



Public Involvement

- Based on extensive public input and outreach.
- Site constraints & early feedback from adjacent property owners & businesses helped inform the final design.



**ENVIRONMENTAL SERVICES
CITY OF PORTLAND**
1220 SW Fifth Avenue, Room 3000
Portland, Oregon 97204-3003

Nick Fox, Commissioner
Diana McNeil, Director

Tabor to the River


participate in green street demonstrations, and watershed improvements

Lower Powell Green Street and Sewer Project

AUGUST 2013

OPEN HOUSE
WEDNESDAY
AUGUST 7
6:30 - 8:00 PM
Loews & Palms
3913 SE Milwaukie Ave

PROJECT CONTACT
Rhett Drennan
503.823.4006
Rhett.Drennan@portlandoregon.gov
To receive crucial project updates, email them with "Tabor" in the subject line.



Lower Powell Green Street and Sewer Project

Construction is anticipated to begin in 2014.


FOR MORE INFORMATION
Rhett Drennan, 503.823.4006
Rhett.Drennan@portlandoregon.gov
www.portlandoregon.gov/bes/lowerpowell

March 2013/Updated: 12/24/13/12/2013

Over one-third of Portland's 3,500 miles of sewer pipes are more than 40 years old. Portland combines sewer improvements that replace or repair sewer and stormwater pipes with green streets, rainwater, trees and other green infrastructure to increase sewer system efficiency, and protect water quality, public health and the environment. Green streets help keep stormwater out of the sewer system, filter pollutants, provide habitat, and promote neighborhood green space for healthier watersheds.

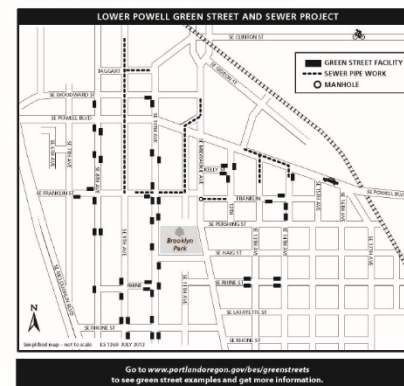
TABOR TO THE RIVER PROGRAM
This project is part of the Tabor to the River Program, which combines innovative stormwater management techniques with sewer repairs and improvements to reduce basement backups, manage stormwater more naturally, and to restore watershed health. The program extends from Mt. Tabor to the Willamette River between SE Hawthorne and SE Powell boulevards.

LOWER POWELL GREEN STREET AND SEWER PROJECT LOCATION



Lower Powell Green Street and Sewer Project

The map below shows the proposed locations for green street facilities and sewer pipe work.



GREEN STREETS
Green streets are small rain gardens that collect stormwater runoff from streets and allow water to soak into the ground as natural vegetation filter pollutants. Green streets also add neighborhood green space and allow traffic to improve pedestrian safety. Green streets are maintained by the city to ensure they are effectively managing stormwater. Portland has more than a thousand green street facilities that effectively manage stormwater, reduce basement backups and add greenspace in neighborhoods. Go to www.portlandoregon.gov/bes/greestreet to see green street examples and get more information.

Environmental Services locates green street facilities where they will be most effective in keeping stormwater out of the sewer system and have the smallest impact on parking. But based on the width of streets and planting design, and the locations of underground utilities and driveways, the city will likely site some green streets in the on-street parking zone next to the curb.

Environmental Services has notified all homes and businesses, where proposed vegetated curb extensions will remove on-street parking spaces.

PIPE WORK
In addition to green street facilities, Environmental Services will also replace 4,000 feet of pipe to increase sewer system performance and reliability. The work will include excavating trenches in streets and using heavy construction equipment. There will be traffic impacts, but Environmental Services will work closely with neighbors and local businesses to minimize the effects.



- ### LOWER POWELL GREEN STREET AND SEWER PROJECT DETOUR FOR SE 17TH AVENUE NORTHBOUND RAMP CLOSURE
-
- SE WOODWARD ST**
- SE POWELL BLVD**
- SE FRANKLIN ST**
- SE PERSHING ST**
- SE HAIG ST**
- SE RHINE ST**
- SE LAFAYETTE ST**
- SE RHONE ST**
- SE BUSH ST**
- SE CENTER ST**
- SE BOISE ST**
- SE CORA ST**
- SE MCLOUGHLIN BLVD**
- SE HOLGATE BLVD**
- SE MALL ST**
- SE REED ST**
- SE 17TH AVE (northbound)**
- SE 18TH**
- SE 19TH**
- SE 20TH**
- SE 21ST**
- SE 22ND**
- SE 23RD**
- SE 24TH**
- SE 25TH**
- SE 26TH**
- SE 27TH**
- SE 28TH**
- SE 29TH**
- SE 30TH**
- SE 31ST**
- SE 32ND**
- SE 33RD**
- SE 34TH**
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- SE 36TH**
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- SE 41ST**
- SE 42ND**
- SE 43RD**
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- SE 92ND**
- SE 93RD**
- SE 94TH**
- SE 95TH**
- SE 96TH**
- SE 97TH**
- SE 98TH**
- SE 99TH**
- SE 100TH**
- ROSS ISLAND BRIDGE**
- WILLAMETTE RIVER**
- 99E**
- RAILROAD**
- BROOKLYN**
- TIBBETTS**
- BOISE**
- PARDEE**
- SCHILLER**
- SE 17TH AVE (southbound)**
- SE 18TH**
- SE 19TH**
- SE 20TH**
- SE 21ST**
- SE 22ND**
- SE 23RD**
- SE 24TH**
- SE 25TH**
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- SE 93RD**
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- SE 98TH**
- SE 99TH**
- SE 100TH**
- WORK ZONE**
- ROAD CLOSED/**
(Sidewalks open)
- ROAD CLOSED—**
NORTHBOUND THROUGH TRAFFIC
(Southbound lane remains open)
- LOCAL ACCESS ONLY**
(No cut-through traffic)
- AUTO/TRUCK DETOUR ROUTE**
- BIKES AND PEDESTRIANS**
use sidewalks through work
and road closure zones
- ES 1567 JULY 2011



Next Steps

- Advertisement Fall 2015
- Level of Confidence is High
- Purchasing Agent to report back to Council with lowest responsible bid
- Construction NTP Winter 2015
- Construction duration is 12 months



Questions?

