SR 500 St. Johns Blvd Interchange (Arnold Park) Mitigation Site

USACE NWP (23) NWS-2009-1104

Southwest Region

2018 MONITORING REPORT

Wetlands Program

Issued March 2019

Washington State Department of Transportation
Environmental Services Office
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Monitoring reports are published on the web at: http://www.wsdot.wa.gov/environment/technical/disciplines/wetlands/monitoring-reports
500 St. Johns Blvd. Interchange (Arnold Park) Mitigation Site

USACE NWP (23) NWS-2009-1104

<table>
<thead>
<tr>
<th>General Site Information</th>
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<tbody>
<tr>
<td><strong>USACE NWP 23 Number</strong></td>
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<tr>
<td>NWS-2009-1104</td>
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<tr>
<td><strong>Mitigation Location</strong></td>
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<tr>
<td>Along Burnt Bridge Creek within Arnold Park, Vancouver, WA</td>
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<tr>
<td><strong>LLID Number</strong></td>
</tr>
<tr>
<td>1226487456514</td>
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<tr>
<td><strong>Construction Date</strong></td>
</tr>
<tr>
<td>2012-2013</td>
</tr>
<tr>
<td><strong>Monitoring Period</strong></td>
</tr>
<tr>
<td>2014–2023</td>
</tr>
<tr>
<td><strong>Year of Monitoring</strong></td>
</tr>
<tr>
<td>5 of 10</td>
</tr>
<tr>
<td><strong>Type of Project Impact</strong></td>
</tr>
<tr>
<td>Wetland, Wetland Buffer, Riparian Buffer</td>
</tr>
<tr>
<td><strong>Area of Project Impact</strong></td>
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<tr>
<td>0.24 acre, 1.56 acres, 4.30 acres</td>
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<tr>
<td><strong>Type of Mitigation</strong></td>
</tr>
<tr>
<td>Riparian Buffer</td>
</tr>
<tr>
<td><strong>Planned Area of Mitigation</strong></td>
</tr>
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<td>4.42 acres</td>
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</table>

1 Impact numbers sourced from (WSDOT 2011, p. 9–22)
2 Additional mitigation provided at the 500 Lower Burnt Bridge Creek mitigation site.
Summary of Monitoring Results and Management Activities (2018)

<table>
<thead>
<tr>
<th>Performance Standards</th>
<th>2018 Results</th>
<th>Management Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>•  35% cover of woody vegetation in the scrub-shrub wetland (Year-10: 70%)</td>
<td>90% cover, 18 species present</td>
<td></td>
</tr>
<tr>
<td>•  At least 5 species of native trees and/or shrubs will be present (Year-10 at least 4 species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The aerial extent of Blackberry species and Class B (WA Dept of Agriculture and Clark County Weed Board) noxious weeds will not exceed 15%</td>
<td>5% cover</td>
<td>Weed control: 4/19, 5/9, 7/10, &amp; 9/12/18</td>
</tr>
<tr>
<td>If/when detected, Class A Noxious Weeds (WA Dept of Agriculture and Clark County), Japanese knotweed, and purple loosestrife (Lythrum salicaria) shall be treated so that the species do not exist on the site.</td>
<td>Knotweed present</td>
<td></td>
</tr>
<tr>
<td>At monitoring years 1, 3, 5, and 7, the aerial extent of reed canarygrass (Phalaris arundinacea) shall not exceed 25 percent total cover.</td>
<td>Less than 5% cover</td>
<td></td>
</tr>
</tbody>
</table>

Report Introduction

This report summarizes fifth-year (Year-5) monitoring activities at the 500 Arnold Park Mitigation Site. Included are a site description, the performance standards, an explanation of monitoring methods, and an evaluation of site success. Monitoring activities included vegetation surveys, and photo-documentation. Monitoring activities occurred on October 4, 2018.
What is the 500 Arnold Park Mitigation Site?

This 4.42-acre mitigation site (Figure 1) is located along Burnt Bridge Creek west of St. John’s Boulevard, north of SR 500, and entirely within Arnold Park. This site was created as partial compensation for impacts to 4.30 acres of disturbed riparian buffer due to mobility and safety improvements within the vicinity of the SR 500 and St. John’s Boulevard interchange. The riparian enhancement area is located adjacent to and within the overall project boundaries, and shares the same watershed characteristics as the impacted areas. The site is designed to provide mitigation for lost wetland functions and is anticipated to provide stream shading, flood flow attenuation, water quality, and general habitat functions.

The SR 500 Arnold Park riparian mitigation site consists of four planting areas adjacent to Burnt Bridge Creek within the City of Vancouver’s Arnold Park. Appendix 2 includes site directions.
What are the performance standards for this site?

**Year 5**

Performance Standard 1  
- minimum 35% cover of native woody vegetation (planted and volunteer).  
- at least 5 species of native trees and/or shrubs will be present in the native woody species areas (Scrub Shrub, Wetland Buffer, and Riparian Enhancement areas).

Performance Standard 2  
The aerial extent of Blackberry Species and Class B (WA Dept of Agriculture and Clark County Weed Board) noxious weeds will not exceed 15% in the combined scrub shrub, buffer, and riparian planting areas, exclusive to each mitigation site.

Performance Standard 3  
If/when detected, Class A Noxious Weeds (WA Dept. of Agriculture and Clark County), Japanese Knotweed, and Purple Loosetrife shall be treated so that the species do not exist on the site. These species shall not be included in the 15% cover allowed for invasive species.

Performance Standard 4  
At monitoring years 1, 3, 5, and 7, the aerial extent of Reed Canarygrass at the Lower Burnt Bridge Creek mitigation site shall not exceed 25% total cover in the wetland creation areas

**Year 10**  
This site continues to develop as intended and is already meeting Year10 performance standards for woody cover.  
- minimum 70% cover of native woody vegetation (planted and volunteer trees and shrubs).  
- at least 4 species of native trees and/or shrubs will be present in the native woody species areas (forested, scrub shrub, and buffer areas).

Appendix 1 shows the planting plan (WSDOT 2010).
**How were the performance standards evaluated?**

The site has developed more rapidly than anticipated and has been meeting the year-10 final year standard for riparian woody cover for two years. On April 16, 2018, a request to discontinue quantitative sampling for riparian woody cover was sent to USACE and the Washington Department of Ecology. This request was accepted on April 16, 2018. Successful achievement of the final year woody cover standard is current. All of the performance standards were assessed qualitatively.

**How is the site developing?**

This site continues to develop as intended and continues to meet the Year10 performance standards for woody cover. The restoration team continues to manage for knotweed and purple loosestrife. Loosestrife was not observed this year and the single patch of knotweed showed obvious signs of herbicide treatment.

This site is intended to provide riparian buffer functions including improving water quality, flood flow attenuation, and general habitat. The dense stands of native woody vegetation are likely already providing these functions by slowing floodwater and providing shade to the creek. The site is providing habitat for wildlife. A beaver dam has been observed on site for a couple years, deer are browsing the vegetation, numerous species of birds have been observed foraging, and several passerine nests have been found.
Results for Performance Standard 1
(At least 35% cover of woody vegetation in riparian buffer; at 5 species of native trees/shrubs [Year-10 70% cover and 4 species]):

Cover of woody species in the riparian zone is estimated to be 90 percent (Photo 1). In 2016, there were four trees and fourteen shrubs present in the riparian zone.

Results for Performance Standard 2
(No more than 15% cover of blackberry species and Class B noxious weeds):

Cover of blackberry species and Class B noxious weeds is qualitatively estimated at five percent. This is below the performance standard threshold.

Results for Performance Standard 3
(Class A Noxious Weeds, Japanese knotweed, and purple loosestrife shall be treated so that the species do not exist on the site.):

Japanese knotweed (Reynoutria japonica) was observed in the southeast lobe of the site. It appeared to be sprayed but was not quite 100 percent dead. No Class A noxious weeds observed.

Results for Performance Standard 4
(Reed canarygrass (Phalaris arundinacea) shall not exceed 25 percent total cover).

Cover of reed canarygrass is qualitatively estimated at less than five percent, located predominantly on along the streambank edge. This is below the performance standard threshold.

What is planned for this site?
Weed control will continue in 2019. A homeless camp removal is planned for Summer 2019.
Appendix 1 – Planting Plan with Photo Point Locations
(from WSDOT 2010)
Appendix 2 – Photo Points

The photographs below were taken from permanent photo-points on October 4, 2018 and document current site development.

Photo Point 1

Photo Point 2a

Photo Point 2b

Photo Point 3
The photographs below were taken from permanent photo-points on October 4, 2018 and document current site development.

**Driving Directions:**
From I-5 take Exit 2 onto SR 500 heading east. Travel east on SR 500 for 1.2 miles. Take the St. John’s Boulevard exit and turn left onto St. John’s Boulevard. After 0.2 mile, turn left onto Northeast Arnold Road. At the end of the concrete drive, continue straight onto a dirt track and then onto a pedestrian walkway adjacent to the mitigation site. Do not drive on any of the pedestrian bridges. Park beside to the pedestrian walkway.
Literature Cited


