



**Washington State  
Department of Transportation**  
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Secretary of Transportation

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March 25, 2011

Ms. Gail Terzi  
US Army Corps of Engineers Seattle District  
Regulatory Branch CENWS OD RG  
PO Box 3755  
Seattle, WA 98124-3755

**RE: I 90 Sunset Interchange Retaining Wall 16 Mitigation Site  
USACE NWP (23) 2003-01008**

Dear Ms. Terzi:

The Washington State Department of Transportation completed qualitative monitoring of the State Route (SR) 90 Sunset Interchange Wall 16 (I-90 Sunset Wall) Mitigation Site on June 29, 2010, to address Year-10 (2014) performance standards. Monitoring activities included vegetation observations, a wetland delineation and photo documentation. This Year-6 report is being issued to document the second consecutive year of meeting final Year-10 performance standards.

<b>General Site Information</b>		
<b>USACE NWP 23 Number</b>	2003-01008	
<b>Mitigation Location</b>	Along the north bank of Tibbetts Creek in Lake Sammamish State Park, King County	
<b>Construction Date</b>	2000-2003	
<b>Monitoring Period</b>	2005-2014	
<b>Year of Monitoring</b>	6 of 10	
<b>Area of Project Impact</b>	0.04 acre	
<b>Type of Mitigation</b>	Wetland Establishment	Buffer Enhancement
<b>Area of Mitigation</b>	0.10 acre	0.40 acre

## Summary of Monitoring Results and Management Activities

Performance Standards Year-10	2010 Results	Management Activities
Native facultative or wetter woody species will achieve 60% cover	Qualitatively estimated at 70% cover	
Native woody species in the buffer will achieve 70% cover	Qualitatively estimated at 85% cover	
Three native facultative or wetter species will achieve 5% relative cover in the PSS	8 species had > 5% cover in the combined scrub-shrub and forested wetland (2009) – 7species in 2010	
Three native facultative or wetter species will achieve 5% relative cover in the PFO		
Three native woody species in the buffer will achieve 5% relative cover	6 species had > 5% cover in the buffer (2009) – 4species in 2010	
Less than 10% cover by non-native invasive species in scrub-shrub and forested wetland	Qualitatively estimated at 3 % cover	Manual and herbicide application weed control occurred in July and August of 2010 and Jan. of 2011.
The wetland areas will be delineated using current methodology to assure that the mitigation sites contain 0.10 acre of new wetland	0.23 acre of wetland delineated	

### How is the Site Developing?

This is the second year in a row that the mitigation site is meeting all of its Year-10 vegetative performance standards and it had developed into a functioning wetland. This site has high cover of woody species and few invasive species in both the wetland and upland areas. Two distinct layers of woody vegetation are developing in both the wetland and buffer. This vegetation is creating diversity in canopy structure that may provide increased habitat value for various wildlife species. A small emergent area developing near the middle of the site is dominated by slough sedge (*Carex obnupta*) and small-fruited bulrush (*Scirpus microcarpus*). The dense herbaceous vegetation combined with high-clay-content soils starting at approximately four inches below the soils surface, allow this depressional area to provide water quality improvement functions.

#### Results for Performance Standard 1

(Native facultative or wetter woody species will achieve 60% cover):

The forested and scrub shrub wetland zones are qualitatively estimated to have 70 percent cover (Photo 1). This value exceeds the performance standard requirement. Over eight woody species were observed in the wetland creating potential for future varied canopy structure and diverse habitat for wildlife.



**Photo 1** – Native woody cover in the wetland (June 2010)

Results for Performance Standard 2

(Native woody species in the buffer will achieve 70% cover):

The aerial cover of native woody species in the buffer is qualitatively estimated at 85 percent. This achieves the performance standard requirement.

Results for Performance Standard 3 and 4

(Three native facultative or wetter vegetation species will achieve 5% relative cover in each the scrub-shrub and forested wetland):

The boundary between the scrub-shrub and forested wetland was difficult to determine and was therefore assessed as one unit. Eight native facultative or wetter vegetation species with five percent or greater relative cover were quantitatively assessed in the combined scrub-shrub and forested wetland in 2009 (Table 1). In 2010, at least seven different facultative or wetter species were qualitatively observed to provide adequate relative cover to achieve the year-10 standard.

Results for Performance Standard 5

(Three native upland vegetation species will achieve 5% relative cover in the buffer):

Six native species were quantitatively assessed to have five percent or greater relative cover in the buffer in 2009 (Table 2). In 2010, at least four different upland vegetation species were qualitatively observed to provide adequate relative cover to achieve the year-10 standard.

Results for Performance Standard 6

(Less than 10% cover by non-native invasive species in the scrub-shrub and forested wetland.):

The cover of invasive species in the forested and scrub-shrub wetland was qualitatively estimated at three percent. Invasive species observed in this zone include Canada thistle (*Cirsium arvense*), reed canarygrass (*Phalaris arundinacea*), and Himalayan blackberry (*Rubus armeniacus*). These species are generally located along the bank of Tibbett’s Creek and in the southern portion of the scrub-shrub wetland. Continued weed control through the 2011 growing season is planned.

Results for Performance Standard 7

(0.10 acre of new wetland):

A wetland delineation conducted on March 3, 2010 found 0.23 acre of wetland. This exceeds the performance standard.

**Table 1. Relative cover species list in the wetland (2009)**

Scientific Name	Common Name
<i>Lonicera involucrata</i>	twinberry honeysuckle
<i>Alnus rubra</i>	red alder
<i>Rubus spectabilis</i>	salmonberry
<i>Rubus parviflorus</i>	Thimbleberry
<i>Cornus sericea</i>	redosier dogwood
<i>Crataegus douglasii</i>	black hawthorn
<i>Fraxinus latifolia</i>	Oregon ash
<i>Physocarpus capitatus</i>	Pacific ninebark

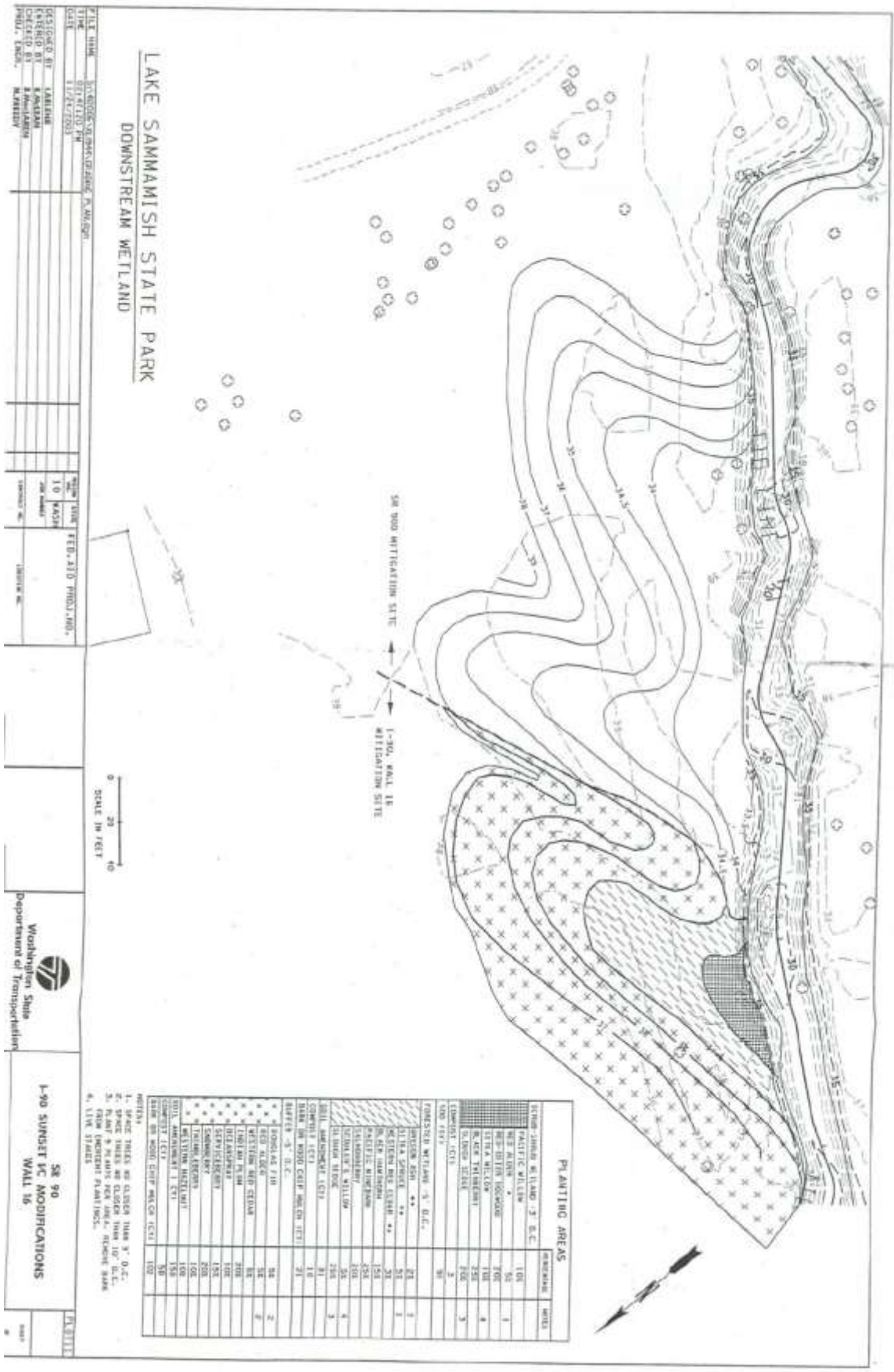
**Table 2. Relative cover species list in the buffer (2009)**

Scientific Name	Common Name
<i>Rubus parviflorus</i>	thimbleberry
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i>	black cottonwood
<i>Alnus rubra</i>	red alder
<i>Symphoricarpos albus</i>	snowberry
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Physocarpus capitatus</i>	Pacific ninebark

For questions about this report or the mitigation site please contact me at 360-570-6640 or by email at [busht@wsdot.wa.gov](mailto:busht@wsdot.wa.gov).

Sincerely,

Tony Bush  
Wetland Assessment and Monitoring Program



FILE NAME	1-90 SUNSET INTERCHANGE WETLAND	DATE	11/27/2003
DATE	11/27/2003	SCALE	1" = 40'
DESIGNED BY	YASUKI	DATE	FEB. 23, 2004
CHECKED BY	K. MURPHY	DATE	
PROJECT NO.	10400	PROJECT NO.	
PROJECT NAME	1-90 SUNSET INTERCHANGE	PROJECT NAME	

**LAKE SAMMAMISH STATE PARK  
DOWNSTREAM WETLAND**

0 20 40  
SCALE IN FEET

Washington State  
Department of Transportation

58 90  
1-90 SUNSET IC MODIFICATIONS  
WALL 18

PLANTING AREAS	AREA (SQ. FT.)	DATE
STAND 1000	100	1
STAND 1001	50	1
STAND 1002	100	1
STAND 1003	100	1
STAND 1004	100	1
STAND 1005	100	1
STAND 1006	100	1
STAND 1007	100	1
STAND 1008	100	1
STAND 1009	100	1
STAND 1010	100	1
STAND 1011	100	1
STAND 1012	100	1
STAND 1013	100	1
STAND 1014	100	1
STAND 1015	100	1
STAND 1016	100	1
STAND 1017	100	1
STAND 1018	100	1
STAND 1019	100	1
STAND 1020	100	1
STAND 1021	100	1
STAND 1022	100	1
STAND 1023	100	1
STAND 1024	100	1
STAND 1025	100	1
STAND 1026	100	1
STAND 1027	100	1
STAND 1028	100	1
STAND 1029	100	1
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STAND 1031	100	1
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STAND 1077	100	1
STAND 1078	100	1
STAND 1079	100	1
STAND 1080	100	1
STAND 1081	100	1
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STAND 1091	100	1
STAND 1092	100	1
STAND 1093	100	1
STAND 1094	100	1
STAND 1095	100	1
STAND 1096	100	1
STAND 1097	100	1
STAND 1098	100	1
STAND 1099	100	1
STAND 1100	100	1