



**Washington State
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May 30, 2011

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

RE: SR 18, 180th Ave SE to Maple Valley Washington (MP 12.57 to 16.55) (Jenkins Creek Mitigation Site)
USACE 1999-4-00171

Dear Ms. Terzi:

The Washington State Department of Transportation completed qualitative monitoring of the SR 18 Jenkins Creek mitigation site on August 14, 2010, to address Year-10 (2013) performance standards. Monitoring activities included an assessment of wetland hydrology, vegetation observations, and photo documentation. This report is being issued to confirm the second year in a row of achieving final year performance standards. It should be noted that this report represents results for the year 2011. Historically this report has been submitted in the month of May, ten months prior to the standard report submittal.

General Site Information				
USACE IP Number	1999-4-00171			
Mitigation Location	SR 18 south of 256 th and west of Jenkins Creek, King County			
LLID Number	1220985473723			
Construction Date	2003			
Monitoring Period	2004-2013			
Year of Monitoring	8 of 10			
Type of Project Impact	Wetland			
Area of Project Impact	0.81 acre			
Type of Mitigation	Wetland Establishment	Wetland Enhancement	Wetland Preservation	Wetland Restoration
Area of Mitigation	0.92	4.43	0.35	0.56

Summary of Monitoring Results and Management Activities

Performance Criteria (Year-10)	2011 Results	Management Activities
Performance Standards		
Wetland hydrology present on 1.48 acres in creation and restoration areas	Delineated in 2010. Included in the 2009 report.	
Enhancement and restoration areas shall contain no more than 25% areal cover of reed canarygrass.	Qualitatively assessed at 5%	Manual weed control occurred in April and herbicide application occurred in May, June, and August of 2010.
No King County-listed Class A, B-designate, and County selected noxious weed species on site.	None Observed	
Emergent wetland will have 75% or more areal cover comprised of at least 3 FAC or wetter herbaceous plant species.	Vegetation qualitatively assessed at 90% 12 species observed	
Forested wetland area will have 25% or more areal cover involving at least 3 FAC or wetter woody plant species.	Vegetation qualitatively assessed at 80% 8 species observed	
Buffer will have 25% or more areal cover involving at least 3 woody plant species	Vegetation qualitatively assessed at 85% 12 species observed	
Permit Requirement		
Soil saturation present for at least 12.5% of the growing season	Present - See figures 1 through 7	

Is the site a success?

This is the second year in a row that the mitigation site is meeting all of its Year-10 vegetative performance standards and is developing into a functioning wetland. This site has high cover of woody species in the forested wetland and upland areas with few invasive species. The emergent wetland has high cover of herbaceous species with a very high diversity of species. Reedcanary grass cover across the site was low with the majority of the reedcanary grass located along the east section of the site next to Jenkins Creek.

Results for Performance Standard 1

(Wetland hydrology present on 1.48 acres in the creation and restoration areas):

A wetland delineation was completed in 2010 and included in the 2009 Wetland Monitoring Report. 1.41 acres were delineated in 2010.

Results for Performance Standard 2

(Enhancement and restoration areas shall contain no more than 25% areal cover of reed canarygrass):

Reed canarygrass (*Phalaris arundinacea*) is qualitatively assessed at five percent. Reed canarygrass was primarily observed along the east section of the site adjacent to Jenkins Creek. There is a large seed source across Jenkins Creek.

Results for Performance Standard 3

(No King County-listed Class A, B-designate, and County selected noxious weed species on site):

No King County-listed Class A, B-designate, and County selected noxious weed species were observed on site.

Results for Performance Standard 4

(Emergent wetland will have 75% or more areal cover comprised of at least 3 FAC or wetter herbaceous plant species.):

Areal cover in the emergent wetland is qualitatively estimated at 90 percent. This exceeds the performance standard of 75 percent. However, due to development of woody species the emergent pockets are smaller than originally intended. Ovate spikerush (*Eleocharis ovata*), slough sedge (*Carex obnupta*), northern water plantain (*Alisma triviale*), and horsetails (*Equisetum* spp.) were all observed in the emergent wetland areas.

Results for Performance Standard 5

(Forested wetland area will have 25% or more areal cover involving at least 3 FAC or wetter woody plant species):

The areal cover of native woody species in the forested wetland is qualitatively estimated at 80 percent. This greatly exceeds the performance standard requirement. Species observed in this zone include Oregon ash (*Fraxinus latifolia*), redosier dogwood (*Cornus sericea*), black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), willows (*Salix* spp.), red alder (*Alnus rubra*), and Sitka spruce (*Picea sitchensis*).

Results for Performance Standard 6

(Buffer will have 25% or more areal cover involving at least 3 woody plant species):

The aerial cover of native woody species in the buffer is qualitatively estimated at 85 percent. This value exceeds the performance standard requirement. The species observed in the buffer include red alder (*Alnus rubra*), Sitka spruce (*Picea sitchensis*), Douglas-fir (*Pseudotsuga menziesii*), Pacific ninebark (*Physocarpus capitatus*), and western red cedar (*Thuja plicata*).



Photo 1 forested wetland August 2010

Permit Requirement 1

(Soil saturation present for at least 12.5% of the growing season):

Standing water was measured in 6 peizometers (See Figure 8 for locations) from March 1st to April 18th, 2011. The measurements taken at 7:00am each day by a Level Troll 100 data logger were used to create Figures 1 through 6. Water was present in the upper 12 inches of the soil for well over 30 days or 12.5 percent of the growing season in each of the 6 wells between March 1st and April 18th. The days of saturation are not consecutive as water was not present in the upper 12 inches of the soil approximately twice during this time period in 5 out of 6 wells. All wells share a steep decline in water around the 24th of March. The antecedent weather conditions illustrated in Figure 7 demonstrate that there was almost no precipitation between March 17th and March 25th. This may explain the corresponding dips in the wells graphs.

Despite these fluctuations and sharp dips in water level, the site is developing as planned and appears to have the hydrology needed to support hydrophytic vegetation.

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



Sincerely,

Tony Bush
Wetland Assessment and Monitoring Program

WETLAND AND STREAM MITIGATION SITE

PLANTING LEGEND


FORESTED WETLAND PLANTING MIX 1

-  ENHANCEMENT
-  CREATION/RESTORATION
- 15% SITKA SPRUCE
- 10% BLACK COTTONWOOD
- 15% WESTERN RED CEDAR
- 25% RED OSIER DOGWOOD
- 15% BLACK TWINBERRY
- 20% SALMONBERRY


FORESTED WETLAND PLANTING MIX 2

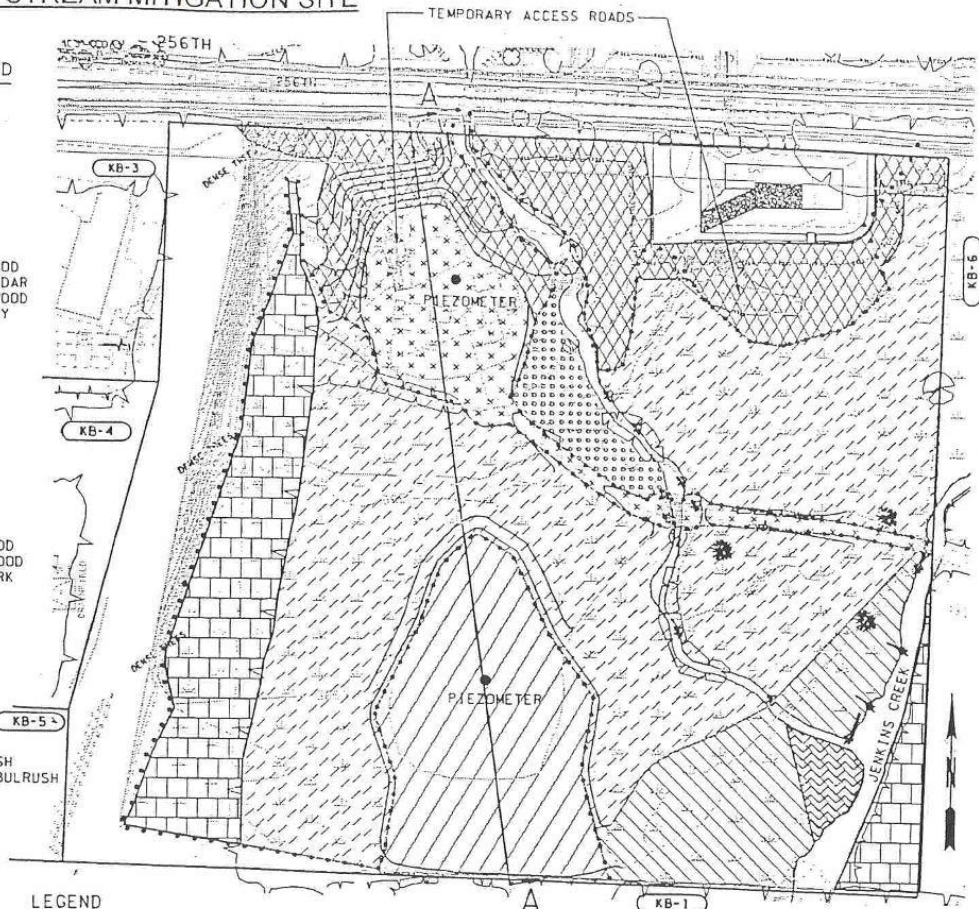
-  ENHANCEMENT
-  CREATION/RESTORATION
- 10% RED ALDER
- 20% OREGON ASH
- 10% BLACK COTTONWOOD
- 25% RED OSIER DOGWOOD
- 10% PACIFIC NINEBARK
- 25% SITKA WILLOW

EMERGENT PLANTING MIX










-  ENHANCEMENT
- 30% SLOUGH SEDGE
- 10% SAWBEAK SEDGE
- 30% SPIKE RUSH
- 20% HARDSTEM BULRUSH
- 10% SMALL-FRUITED BULRUSH

UPLAND BUFFER PLANTING MIX

-  ENHANCEMENT
- 10% VINE MAPLE
- 10% RED ALDER
- 30% DOUGLAS FIR
- 10% BLACK HAWTHORN
- 15% OREGON GRAPE
- 25% SNOWBERRY



LEGEND

-  PIEZOMETER
-  BRUSHPILE
-  EXISTING CONTOUR
-  STUMP WITH ROOTWAD
-  LOG ROLL
-  DELTA GRADING AREA
-  WETLAND BOUNDARY
-  WETLAND PRESERVATION AREA
-  PROPERTY OWNER

0 50 100
SCALE IN FEET

2011 Peizometer Data

The data illustrated below was recorded with a Level Troll 100 data logger device. The reading taken at 7:00am daily was used for the graphs below. Measurements are in inches and negative numbers indicate water measurements above the soil surface.

Figure 1.

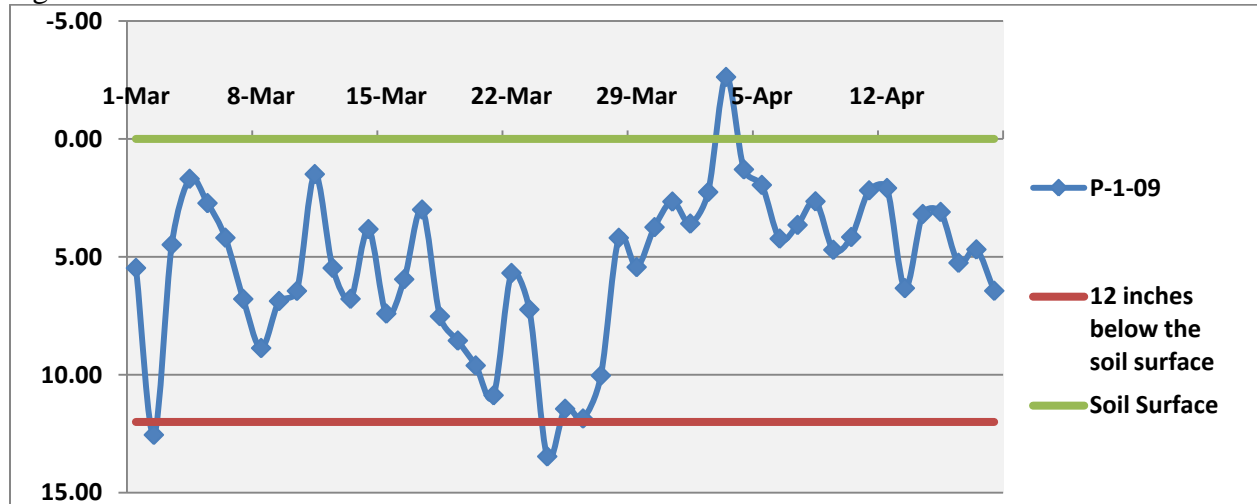


Figure 2.

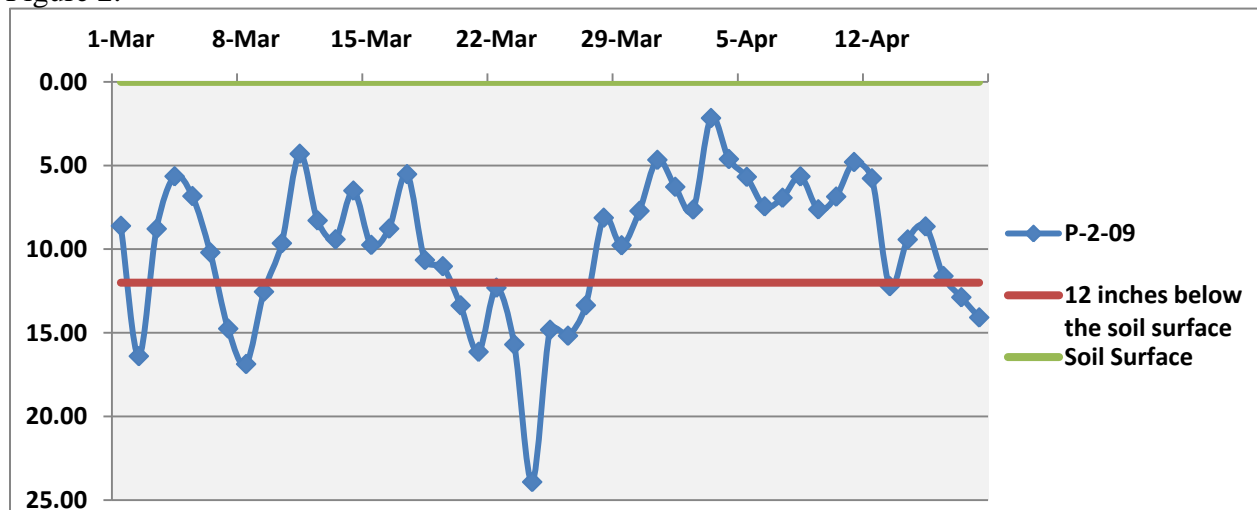


Figure 3.

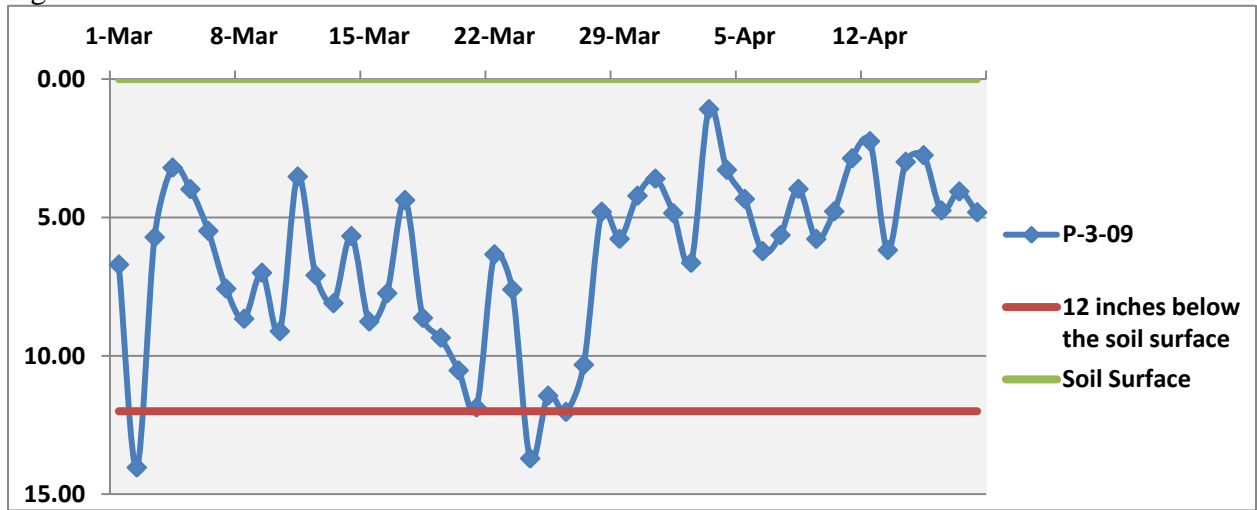


Figure 4.

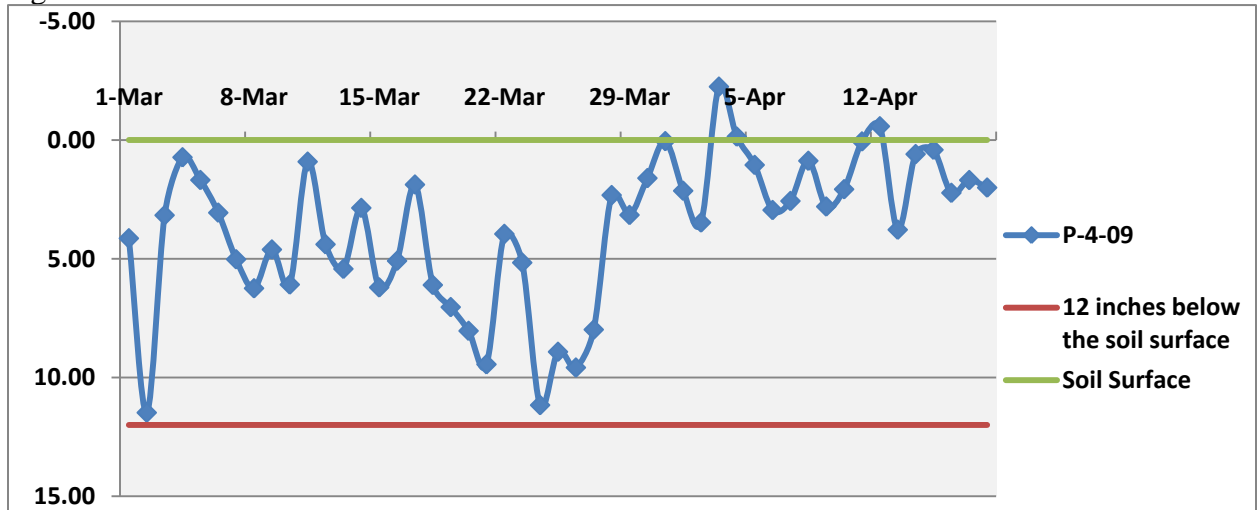


Figure 5.

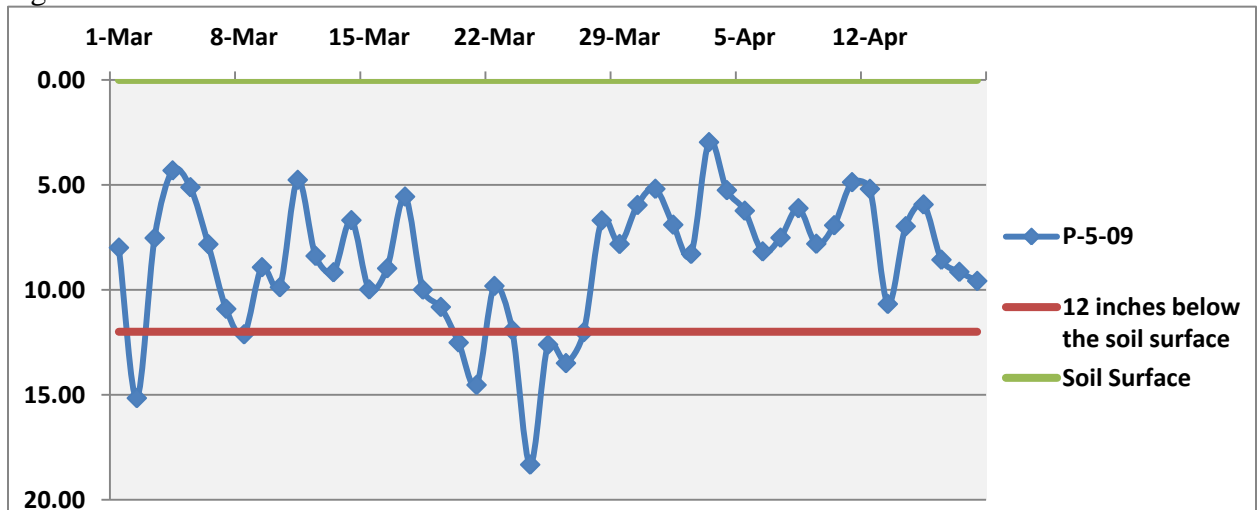


Figure 6.

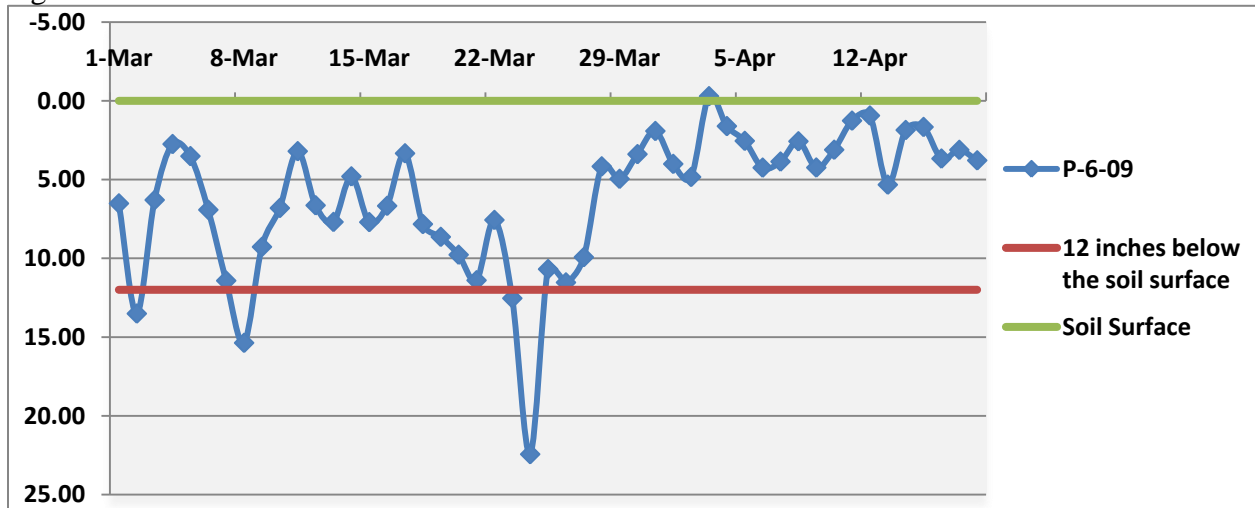
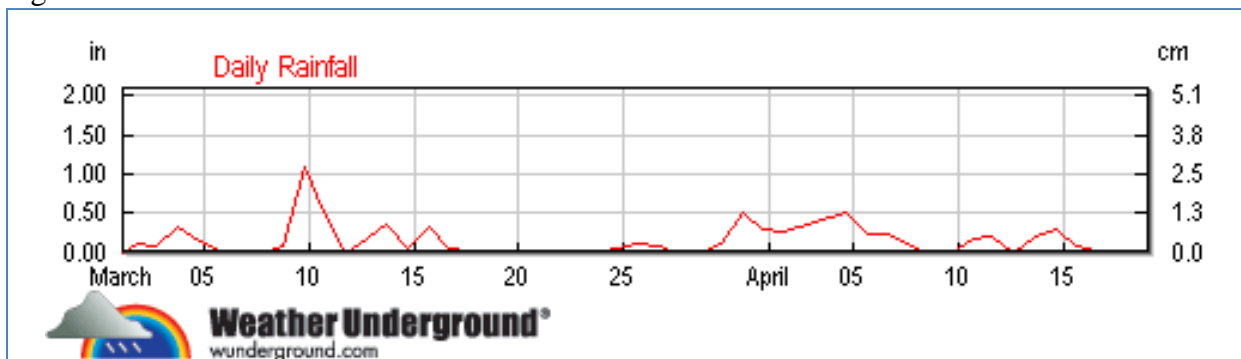


Figure 7.



Rainfall from March 1, 2011 through April 18, 2011 recorded at weather station KWAKEN26 in Kent, WA.

<http://www.wunderground.com/weatherstation>

Figure 8.

2011 Piezometer locations

