



DEPARTMENT OF
ECOLOGY
State of Washington

**Addendum to
Quality Assurance Project Plan**

**Latah Creek (Hangman Hills)
Wastewater Treatment Plant
Nutrient Loading and Groundwater Study**

July 2012

This is an addendum to Publication No. 10-03-116

Publication Information

Addendum

This addendum is on the Department of Ecology's website, below the original Quality Assurance Project Plan, at <https://fortress.wa.gov/ecy/publications/SummaryPages/1003116.html>

This addendum is an addition to an original Quality Assurance Project Plan. It is not a correction (errata) to the original plan.

Original

Quality Assurance Project Plan: Hangman Hills Sewage Treatment Plant Nutrient Loading and Groundwater Study

Publication No. 10-03-116.

Ecology's Activity Tracker Code for this study is 10-140.

Waterbody Number: WA-56-1010.

Author and Contact Information

Melanie B. Redding, Licensed Hydrogeologist
Environmental Assessment Program
Washington State Department of Ecology
Olympia, Washington 98504-7710

This plan was prepared by a licensed hydrogeologist. A signed and stamped copy of the report is available upon request.

For more information contact:

Communications Consultant
Phone: 360-407-6834

Any use of product or firm names in this publication is for descriptive purposes only and does not imply endorsement by the author or the Department of Ecology.

*If you need this document in a format for the visually impaired, call 360-407-6834.
Persons with hearing loss can call 711 for Washington Relay Service.
Persons with a speech disability can call 877-833-6341.*

DEPARTMENT OF ECOLOGY
Environmental Assessment Program

July 18, 2012

TO: Elaine Snouwaert, Client, Water Quality Program, ERO
David Moore, Client's Unit Supervisor, Water Quality Program, ERO
James Bellatty, Client's Section Manager, Water Quality Program, ERO

THROUGH: Jenifer Parsons, Section Manager, Environmental Assessment Program

FROM: Melanie Redding, Hydrogeologist, Environmental Assessment Program

SUBJECT: Addendum to Quality Assurance Project Plan for Latah Creek Wastewater Treatment Plant Nutrient Loading and Groundwater Study (Formerly known as Hangman Creek Sewage Treatment Plant)
Activity Tracker Code: 10-140
Publication No: 10-03-116

This is an addendum to *Quality Assurance Project Plan: Hangman Creek Sewage Treatment Plant Nutrient Loading and Groundwater Study*, which is available online at www.ecy.wa.gov/biblio/1003116.html.

This addendum addresses the need to collect more samples to determine (1) the variability in groundwater and surface water; and (2) if changes in water quality are present since treatment upgrades have been implemented at the Latah Creek Wastewater Treatment Plant. Additional sampling will be conducted in July and September of 2012 for the same suite of parameters, and following the same sampling protocol described in the original QAPP.

If you have questions, please contact me at 360-407-6524 or mkim461@ecy.wa.gov.

cc: Scott Tarbutton, EIM Data Engineer, Eastern Operations Section, EAP
Joe Joy, TMDL Modeler, Eastern Operations Section, EAP
Dean Momohara, Director, Manchester Environmental Laboratory, EAP
Bill Kammin, Ecology Quality Assurance Officer

Project Description

This project focuses on quantifying the groundwater contribution of nutrients to Latah Creek (also known as Hangman Creek) within the defined study area, with particular emphasis on the Latah Creek Wastewater Treatment Plant.

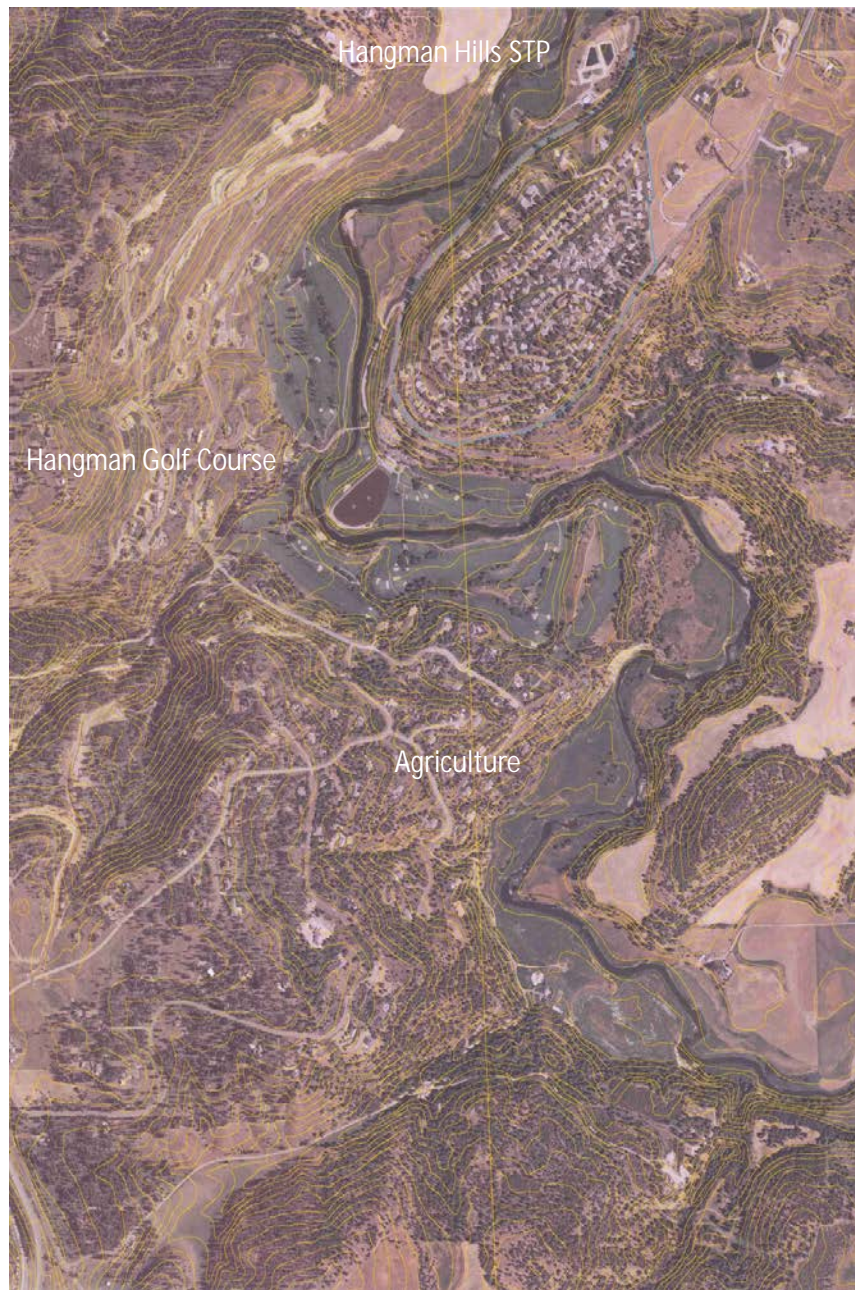


Figure 1. Land use in the lower Latah Creek (a.k.a. Hangman Creek) watershed.

Water quality samples were collected in the summer of 2010. This sampling indicated that both the golf course and the treatment plant are impacting Latah Creek. After this sampling, the Latah Creek Wastewater Treatment Plant made improvements to their treatment plant which improved the effluent quality. Additional sampling events will determine if improvements to the treatment plant are improving ground and surface water quality. Additional sampling will occur in July and August of 2012.

Water quality samples will be analyzed for nutrients and inorganic constituents from the same locations as the 2010 sampling. Static water level measurements will be taken from wells to determine groundwater flow direction. Field measurements will be made for temperature, specific conductance, dissolved oxygen, pH, and oxidation-reduction potential (ORP).

A thermal profile of the hyporheic zone and surface water will be conducted using a thermal probe and measuring at specific intervals along the zones of interest to identify gaining and losing reaches.

Schedule

Table 1. Proposed schedule for completing field and laboratory work, data entry into EIM, and reports.

Field and laboratory work		Due date	Lead staff
Field work completed		September 2012	Melanie Redding
Laboratory analyses completed		November 2012	
Environmental Information System (EIM) database			
EIM user study ID		JJOY0005	
Product		Due date	Lead staff
EIM data loaded		February 2013	Scott Tarbutton
EIM quality assurance		March 2013	Joe Joy
EIM complete		May 2013	Scott Tarbutton
Groundwater report			
Activity Tracker code		10-140	
Author lead		Melanie Redding	
Schedule			
Draft due to supervisor		January 2013	
Draft due to client/peer reviewer		February 2013	
Draft due to external reviewer(s)		April 2013	
Final (all reviews done) due to publications coordinator		May 2013	
Final report due on web		June 2013	