ORIGINAL

Whatcom County Contract No.
20091103 1

2010-2011 INTERLOCAL AGREEMENT

CITY OF BELLINGHAM, LAKE WHATCOM WATER & SEWER DISTRICT, AND WHATCOM COUNTY FOR THE LAKE WHATCOM MANAGEMENT PROGRAM TRIBUTARY MONITORING

WHEREAS, the City of Bellingham, 210 Lottie Street, Bellingham, WA 98225 ("City"); Lake Whatcom Water and Sewer District, 1010 Lakeview Street, Bellingham, WA 98226 ("District"); and Whatcom County, 311 Grand Ave, Bellingham, WA 98225 ("County"), desire to continue an arrangement wherein the County will provide funding for the payment of consultants to perform work in relation to Lake Whatcom watershed tributary monitoring to the mutual advantage of each jurisdiction; and

WHEREAS, the County, City, and District jointly adopted the *Lake Whatcom Reservoir Management Program* through Whatcom County Council Resolution No. 2000-027, Bellingham City Council Resolution No. 2000-14, and Lake Whatcom Water and Sewer District Resolution No. 636; and

WHEREAS, in the *2005-2009 Lake Whatcom Management Work Plan, Program Area 5 Data and Information Management Program Tasks,* it states the Program will, "Maintain and enhance databases sufficient for detection of water quality and quantity trends, assessment of problems, evaluation and selection of management actions, and monitoring of action effectiveness."; and

WHEREAS, additional tributary water quality and stream flow data and storm event data were identified as a data gap through the and the Department of Ecology (Ecology) TMDL; and

WHEREAS, this enhanced data collection will be used to more accurately characterize pollutant loading and assist in the verification of lake response models and analysis of priority areas and management options; and

WHEREAS, in the process established pursuant to the Lake Whatcom Management Program, the County was designated as the contract administrator for the Lake Whatcom Tributary Monitoring Program; and

WHEREAS, the County Administration, in coordination with City and District staff, selected Brown and Caldwell Consultants for the Lake Whatcom tributary monitoring; and

WHEREAS, it is in the best interest of each party to enter into this Interlocal Agreement,

NOW THEREFORE, the City, District, and County agree as follows:

I. *Purpose:* The purpose of this agreement is to set the terms whereby the City and District will make funds available to the County to support Lake Whatcom watershed tributary monitoring conducted by Brown and Caldwell Consultants.

II. *Administration:* No new or separate legal or administrative entity is created to administer the provisions of this agreement.

III. *Whatcom County Responsibilities:* The County hereby agrees to pay Brown and Caldwell for costs associated with Lake Whatcom Watershed Tributary Monitoring and provide deliverables to the City and District as described in Exhibit A and budgeted in Exhibit B.

IV. *City of Bellingham Responsibilities:* The City hereby agrees to reimburse the County an amount not to exceed the total budget allocated to the City as shown in Exhibit B.

V. *Lake Whatcom Water and Sewer District Responsibilities:* The District hereby agrees to reimburse the County an amount not to exceed the total budget allocated to the District as shown in Exhibit B.

VI. *Payment*: All payments under this contract are considered reimbursement for services rendered. Each request for payment herein is to be submitted in the usual form of a claim for services rendered supported by detailed documentation of the services actually performed so as to comply with auditing requirements. Payment shall be upon approved claims and in accordance with customary procedures. The City and District will compensate the County for services rendered within thirty (30) days following receipt of a detailed invoice, provided all other terms and conditions of the contract have been met and are certified as such by the County.

VII. *Term:* This Agreement shall be effective for services performed beginning upon County Council approval of the contract with Brown and Caldwell and extending through the duration of the contract, and may be renewed by mutual written agreement of all of the parties hereto. It may be terminated by any party upon the giving of ninety (90) days written notice to the others, at which time any remaining financial obligations shall be paid in full according to the provisions of "VI. Payment" stated above.

VIII. *Responsible Persons:* The persons responsible for administration of this Agreement shall be the Whatcom County Public Works Department Director, the City of Bellingham Public Works Department Director, and the Lake Whatcom Water and Sewer District General Manager, or their designees.

IX. *Treatment of Assets and Property:* No fixed assets or personal or real property will be jointly or cooperatively acquired, held, used, or disposed of pursuant to this Agreement, except that the products of the tributary monitoring work performed pursuant hereto, shall be deemed the property of each of the parties to this agreement.

X. *Indemnification:* Each party agrees to be responsible and assume liability for its own wrongful and/or negligent acts or omissions or those of their officials, officers, agents, or employees to fullest extent required by law, and further agrees to save, indemnify, defend, and hold the other parties harmless from any such liability. It is further provided that no liability shall attach to the Parties by reason of entering into this Agreement except as expressly provided herein.

XI. *Modifications:* This Agreement may be changed, modified, amended, or waived only by written agreement executed by the Parties hereto. Waiver or breach of any term or condition of this Agreement shall not be considered a waiver of any prior or subsequent breach.

XII. *Applicable Law:* In the performance of this Agreement, it is mutually understood and agreed upon by the Parties hereto that this Agreement shall be governed by the laws of the State of Washington, both as to interpretation and performance, and the venue of any action arising herefrom shall be in the Superior Court of the State of Washington in and for Whatcom County.

XIII. *Severability:* In the event any term or condition of this Agreement or application thereof to any person or circumstances is held invalid, such invalidity shall not affect other terms, conditions, or applications of this Agreement that can be given effect without the invalid term, condition, or application. To this end the terms and conditions of this Agreement are declared severable.

XIV. *Entire Agreement:* This Agreement contains all the terms and conditions agreed upon by the Parties. All items incorporated herein by reference are attached. No other understandings, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the Parties hereto.

XV. *Recordation: Upon execution of this Agreement, Whatcom County shall file a copy of it with the office of its County Auditor pursuant to the requirements of RCW 39.34.*

IN WITNESS WHEREOF, the parties have signed this Agreement this 19th day of February, 2010

CITY OF BELLINGHAM:

Daniel V. Pike, Mayor Date

Approved as to form

Office of City Attorney

Attest:

John Carter, Finance Director

Department Approval:

Ted A. Carlson, Public Works Director

STATE OF WASHINGTON)
) ss.
County of Whatcom)

On this 19th day of February, 2010, before me personally appeared DANIEL PIKE, to me known to be the Mayor of the CITY OF BELLINGHAM, and who executed the above instrument and who acknowledged to me the act of signing and sealing thereof.

TRACY LEWIS NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES MARCH 21, 2011

NOTARY PUBLIC in and for the State of Washington residing at Bellingham.
My appointment expires: 3/21/11.

WHATCOM COUNTY:

Approved as to form:

Daniel L. Gibson
Assistant Chief Civil Deputy Prosecutor

Department Approval

for FA.

Frank M. Abart
Public Works Director

Approved:

Accepted for Whatcom County:

12.9.09

Pete Kremen — Date
Whatcom County Executive

STATE OF WASHINGTON)
) ss.
County of Whatcom)

On this 9th day of December, 2009, before me personally appeared PETE KREMEN, to me known to be the County Executive of WHATCOM COUNTY, and who executed the above instrument and who acknowledged to me the act of signing and sealing thereof.

ARDEN J. HAINES NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 05-25-2011

NOTARY PUBLIC in and for the State of Washington residing at Bellingham
My appointment expires: 05-25-2011

Lake Whatcom Water and Sewer District:

Approval recommended:

James F. Neher
General Manager

Approved as to form:

Attorney for Lake Whatcom Water and Sewer District

Approved:

Leslie McRoberts, President
District Board of Commissioners

STATE OF WASHINGTON)
ss.
COUNTY OF WHATCOM)

DEBI A HILL NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 07-21-2012

On this 28th day of April, 2010, before me personally appeared LESLIE McROBERTS, to me known to be the President of the LAKE WHATCOM WATER AND SEWER DISTRICT BOARD OF COMMISSIONERS and who executed the above instrument and who acknowledged to me the act of signing and sealing thereof.

NOTARY PUBLIC in and for the State of Washington, residing at Bellingham
My commission expires: 7-21-2012.

EXHIBIT "A"
(SCOPE OF WORK)

Lake Whatcom Tributary Monitoring 2010–2011

Project Understanding

This scope of work provides for continuation of the existing Lake Whatcom Tributary storm flow monitoring program implemented by Brown and Caldwell (BC) in 2007–2008. The main goals are to fill data gaps for phosphorus (P) characterization in storm flows for principal and lesser tributaries and to provide important information for the County and City management of the overall Lake Whatcom watershed. BC will implement several recommendations from the 2009 summary reports as discussed with County and City staff and at the August 27, 2009, presentation to the Inter-jurisdictional Coordinating Team (ICT). These recommendations include the following:

- Collection of winter season storm flow samples
- Synchronization of samples with datasonde readings
- Sampling of additional tributaries with little or no sampling history
- Cessation of soluble reactive phosphorus (SRP) analysis
- P source tracking.

Task 1: Storm Flow Monitoring

Goal: Help fill key data gaps by collecting P data from previously sampled as well as un-sampled tributaries.

Activities

Task 1 comprises the following activities:

- Conduct a kickoff meeting with key BC project staff and staff from the County, City, and Lake Whatcom Water and Sewer District to confirm overall project approach, discuss communication needs, and get key information to guide the project.
- Complete field reconnaissance to verify current locations and inspect new candidate locations to determine if they are accessible and good areas for sampling.
- Develop a rotating panel of three groups of sampling locations that can be sampled within the budget provided. A preliminary recommendation would be to sample each group once monthly within each quarter so that all three groups are sampled. Review the rotating panel and field reconnaissance findings with the County who will then approve the final list and sampling schedule.
- Append the existing monitoring plan (BC 2007) with an addendum to add the agreed new locations and changes to lab analysis, schedule, field sheets, etc.
- Collect storm flow samples from locations sampled in 2007–2008, and certain other tributaries with little or no prior history.
- Collect samples in each season, including the winter period, as recommended in the 2009 report.
- Use two auto samplers to maximize the sampling effort; rotate as needed in the schedule.
- Synchronize samples with timing and location of existing datasonde turbidity recordings, where possible.
- Use a rotating panel to sample the three groups of locations: main tributaries with existing sampling history, two groups of minor tributaries, and other locations with little or no sampling history. Certain locations and groupings may need to be logistically efficient to complete work within the budget provided.
- Collect samples similar to the 2007-2008 procedures (i.e. across rising runoff periods), and where possible, extend through the peak and into the falling limb of the hydrograph. Because rainfall and runoff durations will be different between events, we anticipate some sampling periods may require less effort, while others will require more. Also, depending on the logistics of the rotating panel, some locations may not be able to be sampled for all events or portions thereof.
- Where available, download stream gauge data to provide the sampling period hydrographs. All other locations will collect relative stage measurements at the time of sampling as was done in 2007–2008.
- Analyze all samples for total phosphorus (TP), total suspended solids (TSS), and turbidity. Soluble reactive phosphorus (SRP) will not be analyzed in all samples because the 2007–2008 data showed minimal concentrations at most locations.
- Compare 10 percent of the samples for TP, filtered TP, and SRP to assess particulate P and other potential dissolved P forms (in addition to SRP) and compare results with historical SRP.

- Analyze a subset of samples for fecal coliform bacteria, limited to the tributaries and drains subject to the bacteria TMDL.
- Review each laboratory data set for quality control (QC) and synthesize lab report data, field notes, chains of custody, and stage data.
- Provide quarterly reviews via conference call with possible Webex if requested by County and ICT.
- Update correlations among TP, TSS, and turbidity. Where appropriate, apply correlations to continuous turbidity data collected in 2007–2008 as well as data collected by the City during the sampling period of this project. Evaluate the regressions for other potential influences (season, flow, etc). Develop continuous records for TP and TSS concentrations based on the regressions, where appropriate. Complete this work within the budget provided and if sufficient budget remains, use the HSPF model to estimate TP loads based on USGS gauge data where available. These continuous records and loading estimates can be used in management scenario evaluations (not included in this scope).
- Compare measured TP in storm flow samples with predicted TP from HSPF for the new/ungauged locations. Complete this work within the budget provided, and if sufficient budget remains, complete work for existing gauged locations.

Key Assumptions for Cost Estimate

The Task 1 cost estimate is based on the following key assumptions:

- The field reconnaissance of candidate locations (see list below) will take two days for two BC staff and one Wilson staff to complete. This includes the one hour kickoff meeting with key staff from the County, City and District as needed.
- Based on field reconnaissance, BC will supply a list of recommended sampling locations and rotating panel sampling schedule. The County will review the list and sampling schedule with the ICT and approve the final list before BC proceeds with next steps.
- Wilson will spend one additional day for one staff to add simple stage references where needed at the new locations after the ICT has confirmed the list of sampling locations.
- BC will prepare a brief addendum to the existing monitoring plan (rather than revise and reproduce the entire plan) to cover the new locations, sample analysis, field sheets, etc.
- Up to 24 locations will be sampled.
- Up to six storm events will be sampled per location, once quarterly for 6 quarters over 2 years (if work begins in 2010, the last samples would be collected Q3 2011, for a total of up to 18 events sampled based on the rotating panel). Summer sampling periods will be adjusted as needed based on weather patterns and flows because some locations have no flow, and limited rainfall forecast opportunities may require simplification of sampling to fit in more locations per event.
- A rotating panel sampling schedule will include three groups of approximately eight locations per group that will be sampled per storm event each month (e.g., one storm event per quarter per location for up to six total storms sampled per location).
- Wilson Engineering (Bellingham) will use two staff to collect up to six grab samples per sampling event at each location over periods of up to 12 hours and will ship samples overnight to the laboratory or hand-deliver if needed (to meet holding times). Samples will not be filtered in the field. This assumption for the budget provides the overall level of effort for the storm flow sampling. Some sampling events may require more effort and certain locations, weather, and road conditions may present logistical complications. Therefore certain adjustments may be needed throughout the project to keep overall effort within budget including adjusting the sampling schedule, simplifying the rotating panel if logistics impact budgetary assumptions, or reducing numbers of samples collected.
- Aquatic Research, Inc. (Seattle), will analyze all samples for TP, TSS, and turbidity at net $35 per sample. BC used this lab for 2007–2008 with excellent results and low P detection limits (1–2 Eg/L).
- Fecal coliform bacteria will be analyzed in a subset of samples at a cost of $20 per sample. The total number of samples analyzed will be subject to the budget provided (approximately half of all samples collected at the locations subject to the bacteria TMDL). Bacteria sample analysis will target a 30 hour maximum holding time.
- Filtered TP and SRP will be compared in 10 percent of the samples. Samples will be filtered at the lab within 24-hour holding time.
- Field QC sampling will be conducted initially at a 10 percent rate (blanks and duplicates) and will be reduced to a minimum of 5 percent if initial results are favorable. Standard laboratory QC levels will be provided.

- Up to nine of the main tributaries will have usable stream gauge data downloaded from the City (via WWU) and USGS. All other locations will record only the relative stage at the time of sample collection, using simple stage references (tape down or temporary staff plates).
- County and/or City will supply two auto samplers with related consumable supplies (tubing, batteries, and bottles) and appropriate protective housing. BC project staff will not need any special training if ISCO units are supplied.
- Only manual triggers will be used to initiate the auto samplers (i.e., no flow-paced triggers or stage/flow monitoring equipment will be used).
- Candidate locations for the field reconnaissance will include the following tributaries and drains:
  - 5 main tributaries: Anderson, Austin, Olsen, Silver Beach, and Smith
  - 5 tributaries with limited historical data: Brannian, Carpenter, Euclid, Fir, and Wildwood
  - 1 or more locations in each watershed with multiple tributaries where accessible by vehicle or short distance on foot: Agate (6 tributaries), Blue Canyon (9 tributaries), North Shore (3 tributaries), and South Bay (10 tributaries)
  - 7 or more tributaries or drains with no historical data: Academy, Eagle Ridge, Bloedel, Donovan, Eagle Ridge stormwater pond, Coronado, Strawberry, and others observed on reconnaissance
  - Other locations or as suggested by County or ICT could include Park Place drain and Cable Street drain
  - Based on recent discussions with the County and City, Millwheel Creek (Oriental watershed) will not be included
  - Including Silver Beach Creek will depend on the potential for overlap given the ongoing monitoring in this sub-basin being conducted by the County and City.
- The County and City will supply a list of locations with ongoing sampling so that candidate locations can take into account the potential for and prevent overlap.
- The City will supply a list of locations where its datasondes are expected to be actively monitoring during the project's planned sampling periods. The City will operate and maintain datasondes and supply the continuous data with an appropriate QC level.
- The County will supply GIS coverages including maps of stormwater outfalls, rights-of-way, City and County property, and other information as needed. BC will update existing base maps as needed to be used in field reconnaissance and the monitoring plan addendum.
- The current HSPF model will be used to compare measured vs. predicted TP only in the new locations that have not been calibrated in the model. If sufficient budget remains, other existing locations can be evaluated.
- The County will consolidate review comments on the draft summary report from other stakeholders and resolve potential conflicts before BC addresses comments.
- Two additional meetings will be needed in Bellingham to update the County and/or ICT.

Products

The following products will be developed under Task 1:

- Quarterly conference calls with live review of findings to date via Webex if requested by County and ICT.
- Monitoring plan addendum
- Draft and final summary report (Word and PDF) with related data files (Excel).

Task 2: Source Tracking

Goal: Help the County focus stormwater management attention where needed within certain watersheds. Based on our 2007-2008 findings and recent discussions with the County project manager, we understand that source tracking should focus on the following watersheds: Austin/Beaver, Olsen, and Smith Creek. This work will be completed within the budget provided based on the activities listed below.

Potential Activities

Task 2 comprises the following activities:

- Obtain relevant County and/or City GIS data and aerial photos for Austin/Beaver, Olsen, and Smith Creek watersheds and prepare base maps for source tracking.
- Obtain other relevant spatial information if available (e.g., DNR watershed assessment, WWU modeling, or LIDAR).
- Identify key natural and manmade drainage systems in each sub-basin.

- Identify potential source indicators (e.g., land use/land cover, soils, road density, road crossings, road miles within stream buffers, eroding areas visible on aerials, planned CIP [capital improvement projects], etc.) Focus on areas close to drainage systems. Indicate several potential sub-watersheds within each main watershed that could be important to examine on the ground for P and bacteria sources.
- Meet with the County and City to review preliminary maps and evaluations, identify other sources known to the County and City, confirm priorities, and develop a field reconnaissance approach. Delineate areas to be included in field reconnaissance.
- Conduct field reconnaissance to look for visual evidence of potential P (organic materials, soils, and sediments) and bacteria sources along key transport pathways. Collect composite samples of potential source material along key flow paths (e.g., gutters, catch basins, ditches, and eroding channels) and analyze for TP. Additional analysis could include speciation of organic P fractions and available forms (i.e., iron and aluminum bound fractions) if sufficient budget is available. Identify potentially accessible locations for water sampling that could help compare relative sources within the sub-watersheds.
- Outline the water sampling opportunities given the above findings, and estimate costs for several alternatives for P and bacteria.
- Determine if certain bacterial source tracking indicators are feasible and estimate costs.
- Meet with the County and City to discuss results.
- Prepare a brief summary memorandum.

Key Assumptions for Cost Estimate

The Task 2 cost estimate is based on the following key assumptions:

- The County will supply GIS coverages, aerial photos, outfall maps, CIP plans and activities, and other available data.
- The evaluation will be limited to the Austin/Beaver, Olsen, and Smith Creek watersheds.
- Field reconnaissance will be limited to areas near the key drainage system that are legally and physically accessible.
- The source evaluation of forested and inaccessible areas will be based primarily on GIS, aerial photos, LIDAR, DNR data, etc.
- Methods and locations will be determined based on a scoping review meeting with the County (two hours for two staff).
- Field reconnaissance, sampling, and analysis will be limited by the available budget.
- Sampling will be limited to TP in soils and sediments with additional P speciation analysis if desired within available budget. Water sampling and analysis will not be conducted unless sufficient budget remains and a corresponding scope amendment is agreed on.
- The County will consolidate review comments on a summary memo from other stakeholders and resolve potential conflicts before BC addresses them.

Products

Draft and final summary memos will be developed under Task 2.

EXHIBIT "B"
BUDGET
Lake Whatcom Tributary Monitoring

Jurisdictions will be responsible for ensuring that adequate resources are available to implement the Lake Whatcom Tributary monitoring as described below.

PROJECT BREAKDOWN	2010 through 2011	
	Element Cost	Task Cost
Task 1: Storm Flow Monitoring		
Brown and Caldwell, Salaries and Wages: • Brown and Caldwell (1,295 hours for 9 staff at rates ranging from $73.00 to $196.00 per hour)	**$162,331**	**$298,898**
Total Expense Effort	**$136,567**	
• Associated Project Costs (APC)	$10,360	
• Subconsultants		
○ Wilson Engineering	$68,395	
○ Laboratory Analysis	$45,344	
• Other Direct Costs (ODC)		
○ Travel	$1,094	
○ 10% Subconconsultant Markup	$11,374	
Task 2: Phosphorus & Fecal Coliform Source Tracking		
Brown and Caldwell, Salaries and Wages: • Brown and Caldwell (1,295 hours for 9 staff at rates ranging from $73.00 to $196.00 per hour)	**$43,474**	**$50,616**
Total Expense Effort	**$7,142**	
• Associated Project Costs (APC)	$2,696	
• Subconsultant		
○ Laboratory Analysis	$3000	
• Other Direct Costs (ODC)		
○ Travel	$1,146	
○ 10% Subconconsultant Markup	$300	
	TOTAL COST	**$349,514**

Each jurisdiction commits to paying properly incurred and invoiced expenses as follows:

- Whatcom County 45% (2010/May 2012 not to exceed $157,281.30)
- City of Bellingham 45% (2010/May 2012 not to exceed $157,281.30)
- Lake Whatcom Water & Sewer District 10% (2010/May 2012 not to exceed $34,951.40)

These commitments are based upon the following assumption; that the 2010/May 2012 budget does not exceed $349,514.00.