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October 25, 2017

TO: Kevin Burrell, Chair, Pooled Resources Oversight Committee

CC: Pooled Resources Oversight Committee Members, Alternates, and Interested Parties

THROUGH: Bill Moore, Water Quality Program Development Services Section Manger

FROM: Brandi Lubliner, RSMP/SAM Coordinator

SUBJECT: Regional Stormwater Monitoring Program/Stormwater Action Monitoring Quarterly Report for April 1, 2017 through June 30, 2017 (Revised)

Stormwater Action Monitoring (SAM, formerly called the Regional Stormwater Monitoring Program, or RSMP) is funded by municipal stormwater permittees and managed by the Washington State Department of Ecology (Ecology) under the direction of the Pooled Resources Oversight Committee (PRO-Committee) and the Stormwater Work Group (SWG). Information about RSMP/SAM is available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp.html. RSMP changed its name to SAM in early 2017 and this is the last quarterly report that will use the dual acronym of RSMP/SAM.

Ecology delivers quarterly reports on RSMP/SAM implementation to the PRO-Committee. The PRO-Committee briefs the SWG and requests direction as needed to clarify priorities and goals. Attached please find Ecology's ***revised*** thirteenth quarterly report on RSMP/SAM program management and administration for the period from April 1 through June 30, 2017. The report was revised to reflect the actual RSMP/SAM budget at the end of State Fiscal Year 2015 per our agency's fiscal-year-end reconciliation procedures. The changes are detailed in the revised report. Please contact RSMP/SAM Coordinator Brandi Lubliner at brandi.lubliner@ecy.wa.gov or (360) 407-7140 for more information.

Attachment (6pp.)

Regional Stormwater Monitoring Program / Stormwater Action Monitoring Quarterly Report - April 1 through June 30, 2017 Revised

Purpose of Revision

Table 1 was revised to report the RSMP/SAM budget after the close of the State Fiscal Year 2017 (FY17). It is standard practice for all state agencies apply invoices received from July through September for work done prior to June 30, 2017 to the closing fiscal year. This ensures incurred costs are attributed to the fiscal year in which the related work was completed. The Pooled Resources Oversight Committee (PRO-Committee) requests the RSMP/SAM Coordinator continue to issue a revised 2nd quarter report each year.

Additionally, unspent money that had been encumbered for Status and Trends projects for work by Ecology's Environmental Assessment Program (EAP) and Manchester Environmental Laboratory were unencumbered in this revision and remain available for further Status and Trends projects at the start of State Fiscal Year 2018.

RSMP/SAM accomplishments and key decisions reported for the quarter

- The Regional Stormwater Monitoring Program (RSMP) will use the new name Stormwater Action Monitoring (SAM) beginning July 2017.
- An Effectiveness Studies workshop was held April 11, 2017. Eight proposals for a second round of effectiveness studies funding were presented to an audience of over 50 stakeholders. The Stormwater Work Group (SWG) made formal recommendations on which studies to fund based on the technical reviews, permittee votes, and caucus and Effectiveness Studies subgroup recommendations.
- The second Annual Report on implementation of RSMP/SAM was published by Ecology in May 2017.
- The first RSMP/SAM symposium on June 1, 2017 in Renton had 108 people in attendance. Presentations were given for all RSMP/SAM projects funded to date. Each study lead provided a status update, preliminary monitoring results, and available study findings.
- The PRO-Committee approved Ecology's request to hire a SAM Scientist.

RSMP/SAM budget for the previous quarter and anticipated in the coming quarter

Table 1 shows detail for each RSMP/SAM component and for the whole program. Encumbrances in excess of projected revenues are for projects spanning multiple years. RSMP/SAM program management expenses are not separately accounted for by the three RSMP/SAM components; indirect charges are applied quarterly. The total balance and expenditures anticipated for the coming quarter include Ecology's expenses. Revenue is expected in the 3rd quarter (August) of each calendar year.

Table 1. Summary of revenues, expenditures, encumbrances, and available funds for each RSMP/SAM component

Reported and projected income and expenditures	**Status and trends** (4-year project total: $3,638,710)		**Effectiveness studies** (4-year project total: $6,299,238)		**SIDIR** (4-year project total: $677,250)		**RSMP/SAM total** (4-year project total: $10,615,198)		
	Apr-June 2017	Jul-Sept 2017 *(anticipated)*	Apr-June 2017	Jul-Sept 2017 *(anticipated)*	Apr-June 2017	Jul-Sept 2017 *(anticipated)*	Ecology's Apr-June expenses	Apr-June 2017	Jul-Sept 2017 *(anticipated)*
Balance at start of quarter	$491,895	$844,844	$3,405,065	$3,719,893	$404,143	$498,594	-	$4,265,514	$,4962,262
Revenues	$590,252	*$301,924*	$1,046,850	*$527,958*	$112,646	*$56,668*	-	$1,749,748	*$886,550*
Expenditures	$237,303	*$75,010*	$732,022	*$219,542*	$18,194	*$197*	$65,481	$1,053,000	*$359,749*
Balance at end of quarter	$844,844	*$1,071,758*	$3,719,893	*$4,028,309*	$498,594	*$555,066*	-	$,4962,262	*$5,489,063*
Encumbrances	$368,873	*$293,863*	$2,318,543	*$2,099,001*	$197	*$0*	-	$2,687,613	*$2,392,864*

RSMP/SAM contracting activities

Contract scopes of work and deliverables that have been reviewed and approved by the RSMP/SAM Coordinator are posted to the RSMP/SAM website.

- The Washington State Department of Fish and Wildlife (WDFW) contract was amended in May to extend the timeframe to allow for multiple reviews of the draft and final report and add communication deliverables.
- Four of six agreements with Ecology's EAP closed at the end of FY17. The work was complete mid last year and the final unspent amounts were available with the close of the fiscal year. The amounts shown below were unencumbered from the Status and Trends account for these four EAP agreements, and replace the amounts reported in the revised Q2 for FY 2016 report.
    - Puget lowland streams sampling assistance for Watershed Health Monitoring training, data Quality Control, and EIM database entry; $20,938 is unencumbered.
    - Manchester Laboratory analysis of Puget lowland stream samples; $9,673 is unencumbered.
    - Manchester Laboratory analysis of marine nearshore sediment samples; $5,821 is unencumbered.
    - Marine nearshore bacteria data compilation project; $21,057 is unencumbered.

RSMP/SAM issues being resolved or for which stakeholder input is desired

Ecology is revamping their website this calendar year and the RSMP/SAM webpages will change. There will be improved browsing capabilities, but also some new content limits and new requirements for readable attachments. The transition will bring some delays in posting deliverables while staff divide their time between the old and new website systems.

RSMP/SAM summary by topic

Communications project

Association of Washington Cities (AWC) organized the first RSMP/SAM findings symposium on June 1, 2017. Also in June, the RSMP/SAM Coordinator talked with permittees about SAM at the Annual AWC Conference in Vancouver. Next quarter a SAM short video and three or more SAM study fact sheets will be developed.

SAM's First Findings Symposium

This symposium was the first showcase of all the RSMP/SAM studies to date. Each of the 14 SAM studies funded thus far by the 2013-2018 pooled funds gave a brief presentation. Presentations highlighted findings from completed studies and an update on the status of each currently active project. Future symposiums will cover studies recently or nearly completed.

Four receiving water studies:

- Rich Sheibley (U.S. Geological Survey (USGS)) and Curtis DeGasperi (King County, or KC) presented preliminary findings on differences in conditions between Puget lowland streams in the urban area and outside the urban area.
- Ecology's Debby Sargeant (formerly BEACH coordinator) presented on the *bacteria data compilation* project findings. BEACH is the shared Ecology and Dept. of Health Beach Environmental Assessment, Communication, and Health Program (website). Recommendations are to evaluate if a stormwater bacteria program is needed and if so coordinate with BEACH and the Dept. of Health shellfish program on sites with ongoing stormwater sources.
- Jennifer Lanksbury (WDFW) presented *urban nearshore mussel contaminant* findings.
- Bob Black (USGS) gave a status update on the *urban nearshore sediment* project.

Ten effectiveness studies:

- Operation and maintenance: Jenée Colton (KC) presented a synopsis of the *catch basin cleaning* survey.
- Source Control: Greg Vigoren (Lakewood) and James Packman (Aspect Consulting) gave a status update at on the *small business source control* survey data received from permittees.
- Low Impact Development - Bioretention:
    - Bill Taylor (Taylor Aquatic Science) and Eli Mackiewicz (Bellingham) presented interim findings on *hydrologic performance of bioretention* facilities.
    - Alex Taylor (WSU) presented a status of the *bioretention amendment with fungi and plants* mesocosm study that is just getting started.
    - Richard Jack (KC) presented a status of a *polychlorinated biphenyl (PCB) sequestration study* using the same mesocosms as the fungi amendment.
    - Aaron Clark (Stewardship Partners) presented on the *Rain garden and bioretention assessment protocol* itself and gave a project status update.
- Retrofits:
    - John Lenth (Hererra) presented interim findings from 2015-2016 on Redmond's p*aired watershed retrofit and restoration study*.
    - Kate Macneale (KC) presented interim findings on field monitoring data from the *regional stormwater facility retrofit* in Federal Way near Hylebos Creek.
    - Carly Greyell (KC) presented interim findings on water quality improvements using detention, rain gardens, and Filterra devices from the *Highway 99 retrofits along Echo Lake* study.

Receiving water projects

RSMP/SAM is monitoring and assessing the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound nearshore and small stream environments. The bacteria compilation effort is compete and SWG will consider recommendations for future work. A draft report on the nearshore mussel monitoring findings was received this quarter and the final report is expected next quarter. The nearshore sediment and lowland small streams projects are both working on data analyses this quarter, and draft reports are anticipated next quarter. Following delivery of recommendations for all receiving water studies, SWG will plan future trends monitoring.

Effectiveness study projects

RSMP/SAM is monitoring the effectiveness of BMPs and management actions to reduce stormwater runoff destructive flow and transport of pollutants to receiving waters. There was a lot of activity in the second quarter of 2017 on the nine active effectiveness monitoring projects. Three projects completed field monitoring phases and two projects started their field monitoring phase.

An Effectiveness Studies workshop showcased eight new proposed stormwater management effectiveness studies on April 11, 2017. More than 60 stakeholders registered. Based on the proponents' presentations and summaries of SWG's and Ecology's technical reviews, permittees voted to rank the proposed projects and provide feedback. The SWG Effectiveness Studies Subgroup and SWG caucuses made recommendations as well, and the SWG finalized their recommendations on June 7th. Up to five projects will begin in the next fiscal year. The first two projects are the continuation of the bioretention hydrology study and the second a continuation of the bioretention media blend study. Two projects will form technical advisory committees to refine their scopes. One project was encouraged to reapply with more regional partners in a future round funding.

Source Identification Project

The final report on the permittees' 2014 Illicit Discharge Detection and Elimination (IDDE) incident data was approved by the RSMP/SAM Coordinator. The SWG Source ID Subgroup finalized data fields for IDDE incident tracking and made recommendations to the SWG based on the project's findings.

Table of approved SAM deliverables and next quarter anticipated activity

Project activities, contracting actions and meetings are summarized under each RSMP/SAM category in this section.

Communications	Deliverables approved Q2 2017	Anticipated deliverables Q3 2017
Association of Washington Cities	Logo, icons, templates for PowerPoint & fact sheets, and SAM symposium agenda and registration.	Three factsheets, 3-5 minute SAM promotional YouTube video, story map/GIS product outline
Receiving water agreements	**Deliverables approved Q2 2017**	**Anticipated deliverables Q3 2017**
Streams – King Co	Team work shifts to focus on other local monitoring efforts such as Kitsap, King, and Pierce County, City of Redmond, Ecology's watershed health, and USGS 2015 NAQWA effort. Presentation at SAM Symposium.	Draft report and recommendations for streams trend program. Memo 2 from EAP on data analysis and recommendations for trend program.
Streams – USGS		
Streams – Ecology Environmental Assessment		
Nearshore sediment - USGS	EIM submission of data, quality assurance review and data usability statement. Presentation at SAM Symposium	Laboratory analysis of microplastics from USGS. Summary of field parameters and organic contaminant potential origins. Draft report on the status of nearshore sediment chemistry, a comparison to Ecology's Marine Sediment trend program and SAM trend program recommendations.
Nearshore sediment - DNR	Sampling phase expenses for labor, travel, equipment and sample shipping. Presentation at SAM Symposium	
Nearshore sediment – King County	Narrative on EPA update V, SW-846 methods for SAM sediments.	
Marine mussels - WDFW	Draft SAM mussel report for sampling done in winter of 2015-2016. Presentation at SAM Symposium	Final SAM mussel report for sampling winter of 2015-2016 and draft fact sheet.
Puget Sound bacteria compilation - EAP	Presentation at SAM Symposium.	Complete.
Source ID Contract	**Deliverables approved Q2 2017**	**Anticipated deliverables Q3 2017**
IDDE Reports	Final report on the 2014 IDDE data and final database.	Complete.

SAM contracts deliverable activity Apr – June 2017

Effectiveness studies contracts	Deliverables approved Q2 2017	Anticipated deliverables Q3 2017
Catch basin inspection and maintenance	King County compiled survey data from city/county/port municipal stormwater permittees & documented in their semi-annual progress report. Presentation at SAM Symposium.	The survey compilation results and meeting with the Technical Advisory Committee (TAC).
Paired urban watershed restoration	Water year 2016 draft annual report with many incremental deliverables such as QA. Presentation at SAM Symposium.	Final 2016 water year report and water year 2017 progress report.
Hylebos Creek bioretention retrofit	Field sampling complete. Monitoring progress report and data validation. Presentation at SAM Symposium.	None.
LID Retrofit of Hwy 99 at Echo Lake	Data validation and progress reports completed. Field sampling was completed this quarter. Presentation at SAM Symposium.	Semi-annual progress report, draft and final project report.
Stormwater source control at small businesses	Monthly status report & presentation at SAM Symposium.	Monthly monitoring progress and data. Source control data and analysis approach memorandum. Access database and final report.
LID bioretention hydrology performance	The field data collection phase, extended into June and was completed this quarter at all ten bioretention sites. Q1 Monitoring progress and data. Presentation at SAM Symposium.	Q2 Monitoring progress and data. Technical memo on performance compared to modeled expectations is expected.
Effectiveness of bioretention soil to capture and treat PCBs	Presentation at SAM Symposium.	Quarterly monitoring progress and data. Validation memo on first year of monitoring data and draft database.
Field test of plants and fungi on bioretention performance	Technical memo characterizing the site and study layout, the baseline bioretention soil properties including chemistry, and initial water retention performance of the study's bioretention mesocosms with fungal and plant amendments. Presentation at SAM Symposium.	Study baseline analyses on water, bioretention soil mix, and facility set up. Report on baseline microbiology, chemistry, toxicity testing. Yearly report on hydraulic, water quality, and toxicity monitoring.
Rain Garden and bioretention protocol and survey	Version 1 TAC meeting, quarterly progress report, and Version 2 protocol. Presentation at SAM Symposium.	Draft social science survey and interview methodology. Version 2 training materials, tech memo, results V2 survey and plan for data.