

**Stormwater Action Monitoring (SAM)
Effectiveness Study and Source Identification Project
Round 3 Request for Proposals**

January 22, 2020



Introduction

Stormwater Action Monitoring (SAM) is soliciting proposals for effectiveness and source identification studies or projects that support the implementation of the National Pollutant Discharge Elimination System (NPDES) Phase I and Western Washington Phase II Municipal Stormwater Permits. SAM is coordinated by the Washington Department of Ecology (Ecology) and overseen by the [Stormwater Work Group \(SWG\)](#). This current request for proposals is SAM's third round since SAM was launched in 2014. Information about SAM projects conducted during the 2013-2019 permit term is summarized in the [SAM Booklet](#) and more details are available at www.ecology.wa.gov/SAM.

Successful stormwater management approaches prevent and reduce water quality and habitat impacts. SAM's effectiveness and source identification studies and projects advance our collective understanding and successful implementation of stormwater management permit requirements and programmatic approaches to permit compliance. This adaptive management feedback is used by permittees, Ecology, SWG and interested stakeholders about improving municipal stormwater programs and best management practices.

The available funding for this Round 3 solicitation is approximately \$3M of the \$6.2M of permittees' contributions for the 2019-2024 permit term for SAM projects. Approximately \$1.1M of the total amount is committed to continuation of the Redmond-led Paired Watershed Study through the permit term. A fourth solicitation round for SAM projects is anticipated in 2023 to fund more studies with the remaining SAM funds.

SAM's funding comes from contributions paid by municipal stormwater permittees. The SWG will determine which proposals will receive SAM funds based on the multistep proposal evaluation and selection process outlined in this request. Successful proposals will have a broad base of support from permitted cities and counties.

Please contact SAM Coordinator Brandi Lubliner with questions about this process at Brandi.Lubliner@ecy.wa.gov or (360) 407-7140.

Eligibility

Successful proposals will address a priority SAM study topic for this permit term (Appendix A) to inform the effectiveness of a municipal stormwater permit requirement and/or approaches to municipal stormwater permit compliance. To be considered for this program, proposals shall:

- Advance regional implementation of stormwater management programs, and
- Address one or more topics on the SWG approved priority topic list for this Round 3 Request for Proposals, and
- Contain a purpose, objective, study design, anticipated methods, and anticipated outcomes, and
- Articulate how the study or project will inform future permit requirements or permittees' implementation of current permit requirements, and
- Be relevant to multiple permitted jurisdictions.

Qualified Applicant

This is a competitive funding program, open to any "public agency" that may legally enter into an inter-agency agreement with the Washington State Department of Ecology. This includes cities, counties, state and federal agencies, tribes, the Washington Stormwater Center, public ports, public universities, conservation districts and agency consortiums. Consulting firms and non-profits are not eligible to apply directly for this funding program, but they may partner with a public agency.

Partnerships

Project proponents are strongly encouraged to form partnerships to address issues of common concern. Eligible partners include, but are not limited to, all eligible applicants listed above, non-profit organizations and for-profit companies.

Project Ceiling

There are no ceiling or match requirements for SAM projects. 100 percent of eligible costs are fundable based on a negotiated contract with Ecology and the SWG.

Ineligible Project Components

Ineligible projects or project components include but are not be limited to:

- Grant application preparation.
- Capital construction projects.
- Projects that do not support Municipal Stormwater NPDES Permit implementation.
- Give-a-ways or incentives that do not directly inform the proposed study.
- Journal publications and travel to out-of-state conferences.
- TAP-E review process for proprietary treatment systems. However, using a TAP-E approved proprietary system for a study that meets the interests of multiple parties is an eligible project component.

Project Selection Process and Timeline

There are six distinct stages to this proposal submittal, evaluation, and project selection process.

Stage 1. Letter of Intent (LOI) to Submit a Proposal

Interested parties should submit a Letter of Intent (LOI) via the SAM LOI Google Form (<https://forms.gle/hB8VLAfvqYfQX3XUA>) on or before February 28, 2020 for each individual proposal idea. SAM Staff will send the project proponent a confirmation email upon receipt of the LOI.

The SAM Staff, with input from the SWG's SAM Study Selection Subgroup (S4), will review each LOI for eligibility based on criteria for proposals as discussed in the introduction section of this document. Each project proponent will receive feedback on their LOI to inform their decision as to whether to proceed to Stage 2.

Stage 2. Full Proposal

Successful project proponents from Stage 1 will be invited to develop full proposals and submit them on or before May 15, 2020 thru the SAM RFP Form (*currently under development. This document will be updated with the link*). A proposal for a SAM project should be complete enough for the review committee to understand and provide feedback (see scoring criteria provided at the end of this document) but not at the level of detail necessary for a complete contract scope of work. Proponents are advised to include the following sections:

- Project purpose,
- Project description/scope of work,
 - Describe the study design or main project tasks.
 - For projects collecting new data or analyzing new or existing data, a Quality Assurance Project Plan (QAPP) is needed.
 - Specifically describe data requests from Permittees anticipated for the project. The data type, format, and nature of information sought.
 - All SAM projects must include a plan for communicating the study findings, and at a minimum, these deliverables:
 - A presentation to the SWG before the final report is completed; and
 - A draft two-page summary of the project results/ findings following the SAM Fact Sheet template.
- Project team description,
 - All SAM projects should plan to either organize Technical Advisory Committee (TAC) or, for smaller projects, designate a Project Liaison. The TAC or liaison will review of the study design and key and final deliverables.
 - The TAC may be formed as the first task in the proposal.
 - Project proponents may request that a SWG subgroup be a resource for recruiting project advisory committees.
 - Projects are encouraged to include multiple permittees, and particularly jurisdictions of various sizes, on their TACs.

- Project management strategy,
- Project budget and schedule
 - Specify the expected duration of the project and particular requirements for the study period, if any.
 - Articulate key project deliverables such as survey results, databases, final reports, and communication tools.
 - All SAM contracts are deliverables-based. A distinct cost for each deliverable is required.

The final proposal may not exceed 10 pages total excluding the cover page. Font size must be 12 point. Up to three additional pages are allowed for maps and figures. The proposal scoring criteria are included at the end of this document.

Each proposal must be signed by a person duly authorized to legally bind the project lead. Partnering entities must attach a letter of commitment describing their role in the study. Letters of commitment do not count toward the 10 page proposal limit.

All costs for developing proposals in response to this request are the obligation of the applicant and are not chargeable to SAM. All submitted proposals and accompanying documentation will become property of SAM and will not be returned.

Stage 3. Scoring and Technical Review of Full Proposals

Stage 3a – Scoring

The SAM Coordinator and members of the SAM Study Selection Subgroup (S4), will review and score full proposals based on the criteria at the end of this document, past performance as a SAM contractor (if applicable), and technical concerns.

Stage 3b – Technical review

If needed, the SAM Coordinator will identify technical reviewers among SWG and/or Ecology to assess the technical efficacy of each proposal that passed Stage 3a. The technical reviewers will produce an unscored summary of their findings for each proposal.

SAM Staff will return scoring and technical review results to each project proponent by July 31, 2020. A revised proposal may be requested when significant changes are requested by the reviewers and communicated by SAM Staff.

Stage 4 – Presentation of final proposal at SAM Round 3 Project Selection Workshop

Project leads that have successfully made it through Stage 3 will give a presentation at the workshop on September 16, 2020 at the Renton Community Center. Presentations will follow the template provided by SAM Staff and will not exceed ten minutes, including Q&A. The purpose of the workshop is to allow permittees and other stakeholders to get a deeper understanding of each full proposal. Time will be allowed during the workshop to

allow for interaction between interested parties and the project proponent. The workshop is expected to last about four hours but will be dependent on how many proposals make it to this stage.

Stage 5 – Permittee voting

For the week following the workshop, the permit manager for each western Washington jurisdiction that is participating in SAM Effectiveness Studies and Source Identification Projects (Special Condition S8.B) during this permit term will be given an opportunity to vote on which projects they would like to see move forward. Each permittee will be allowed to vote for three projects, ranked in priority order.

Stage 6 – Proposal Awards

The SWG will review the ranked project list resulting from the permittee voting prior to making final decisions. The SWG will submit a final list of approved projects, including recommended start dates (see introduction section), to the SAM Coordinator and Ecology following its meeting on November 18, 2020.

Project Selection Schedule

Project Selection Stage	Description	Completed
Stage 0	Request for study proposals advertised	Late January 2020
Stage 1	Letter of intent (LOI) from project proponent due to SAM Coordinator	February 28, 2020
	SAM Coordinator provides feedback to all project proponents and each proponent as to whether their project will move to Stage 2	March 28, 2020
Stage 2	Full proposal from project proponent due to SAM Coordinator	May 15, 2020
Stage 3	SAM Staff coordinate for scoring and technical reviews and send back to project proponents.	July 31, 2020
Stage 4	SAM Round 3 Project Selection Workshop with presentations by proponents and stakeholder voting	September 16, 2020
Stage 5	SWG approves project list for SAM funding	November 18, 2020

The pace of new projects is dependent upon funding and capacity of SAM staff at Ecology to manage projects. There are 15 projects carried over from the 2013-2019 permit term at various stages of completion. SAM has funding and capacity to start approximately five successful proposals each year. For this RFP, the SWG expects to begin about five new projects in winter of 2020 and about five more in fall of 2021. The SWG will decide whether to approve up to five more proposals to begin in fall of 2022. A fourth round of request for SAM proposals is also expected to take place in 2023.

Full Proposal Scoring

Category	Evaluation Criteria	Maximum Possible Points
Project Purpose 100 Points	Addresses a question found in the SWG's 2019 list of priority topics. Clearly defines how the study supports implementation of NPDES municipal stormwater permit programs and/or conditions. Articulates how the study or project will inform future permit requirements or permittees' implementation of current permit requirements.	50
	Directly involves multiple permittees who are engaged because the project will benefit their stormwater management.	15
	Advances regional implementation of stormwater management programs. Demonstrates regional or statewide significance or value (i.e., is transferable).	25
	Will sustain long-term benefits and/or deliverables are durable.	10
Project Description and Scope of Work 100 points	Clear project goals and scope of work. Contains a purpose, objective, design, method, anticipated outcomes. Measurable outcomes are tied to project goals.	25
	Detailed description of project tasks. All tasks necessary to complete the project are clearly identified.	25
	Includes specific deliverables linked to project tasks.	25
	Clear plan for communication of project findings.	25
Project Team and Project Management 50 points	Clear team structure with highly qualified staff. Appropriate levels of effort. Assigns appropriate roles and responsibilities to project staff and partners. Includes estimates of necessary time to be dedicated to the project by all team members.	25
	Multiple permittees are actively engaged in the project development and delivery processes.	15
	Past project performance on similar water quality projects is described and successes and/or lessons learned are documented.	10
Project Budget and Schedule 50 points	The budget is consistent with the level of effort described in the scope of work, with a good rationale for how it was calculated.	25
	The schedule is realistic, demonstrates the project is ready to proceed, and includes major dates and milestones and time for review by TAC or liaison.	15
	A distinct cost is provided for each project deliverable.	10

Appendix A: SAM Priority Topic List for 2019-2024 Permit Term



Purpose Statement for Stormwater Action Monitoring (SAM) studies

The primary audience for SAM is stormwater managers. SAM studies provide applied scientific information to improve how stormwater is managed, specifically under Ecology's municipal stormwater permits. SAM studies help us to better understand and address stormwater impacts and sources of stormwater pollution, improve selection and implementation of Best Management Practices (BMPs), improve permittees' oversight of developers, and/or improve the permits or the *Stormwater Management Manual for Western Washington* (SWMMWW).

SAM Priorities for the 2019-2024 Municipal Stormwater Permit Term



Ongoing SAM Effectiveness Studies and Source Identification Projects

These SAM studies are in various stages of completion and will continue in the 2019-2024 permit term.

Effectiveness studies:

- Redmond paired watershed retrofits
- Oyster shell retrofits in catch basins
- Bioretention hydrologic performance post 2012 design
- Bioretention amendment with fungi
- Bioretention reduction of PCBs
- Longevity of biological protection using bioretention
- Mulch choices for bioretention
- Orifice controls for bioretention
- Water budgets of individual trees

Source identification projects:

- Regional stormwater spill hotline feasibility study
- Illicit Connection/Illicit Discharge field screening manual updates and trainings

Current SAM contracts fully fund all of these studies except the Redmond paired watershed retrofit study. SWG has approved long-term funding for the paired watershed retrofit study. The SAM Coordinator should include ongoing funding for this project in the SAM budget along with new studies.

Future SAM Effectiveness Studies and Source Identification Projects

The SWG recommends that the SAM Coordinator request proposals in January 2020 for SAM Effectiveness Studies and Source Identification Projects to either answer the following questions or provide effective guidance to address the following problems. These topics have been divided into three types:

- Topics for white papers, which include both a literature review, synthesis of the information, and recommendations for permittees and Ecology; and
- Topics for studies, which include gathering and evaluating new data to produce meaningful information for Ecology and permittees to use and apply in writing and implementing permit

requirements. Studies may gather information via environmental data collection, surveys, or other means.

- Topics for projects, which may include analysis of specific data or development and implementation of training materials based on other SAM findings.

Education and Outreach (E&O)

– *Topics for White papers*

These topics should be addressed sequentially, as resources allow:

1. What types of stormwater problems are appropriate for meaningful behavior change efforts?
 - 1.1. Determine what types of stormwater problems are appropriate for meaningful behavior change efforts. Conduct a situational analysis to determine, of all possible regional stormwater issues, which is best addressed through behavior change efforts (rather than through education, policy, infrastructure, or enforcement).
 - 1.1.1. Common stormwater issues should include, but are not limited to: automotive pollutants; mobile business waste; residential and commercial pesticides; animal and/or human waste; litter, including plastics; pollutants from exterior household maintenance, *e.g.*, roof treatments, detergents, debris; and other targeted chemicals of concern (<https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Issues-problems/Toxic-chemicals>).
2. For stormwater issues that are effectively influenced by behavior change efforts, what are the most effective behavior change tools?
 - 2.1. Determine the most effective behavior change tools for common stormwater issues.
 - 2.2. Conduct a broad literature review of programs from across the country, organized by stormwater issue.
 - 2.3. Address the barriers and benefits of behavior adoption, why the tool(s) within each program were selected, the program impact, and any limitations of the program, *e.g.*, audiences not reached by the program/tool.

Low Impact Development (LID), Structural BMPs, Retrofits, Operation and Maintenance (O&M)

– *Topics for White Papers*

3. Quantify the benefit of replacing traditional pavement with permeable pavement.
 - 3.1. What are the lifecycle costs of permeable pavement?
4. What is the minimum maintenance frequency for bioretention required to achieve full benefits of the facilities?
5. What maintenance frequency should be required for Treatment Assessment Protocol-Ecology (TAP-E) approved facilities that are currently failing?
 - 5.1. How can we apply these principles to other BMPs, particularly in situations where modified installations need different maintenance schedules than those recommended by the manufacturers?
 - 5.2. Recommend new criteria to improve maintenance schedules and provide a feedback loop to TAP-E.
6. Which BMPs are most effective under typical pollutant loadings/sediment particle size ranges?
7. What is known about the water quality benefits of the maintenance thresholds that are required in the SWMMWW for vaults, ponds, and trenches?
 - 7.1. Can we more cost-effectively clean vaults, ponds, infiltration trenches, and catch basins?
 - 7.2. When is it more effective to replace/retrofit versus provide significant maintenance to a facility?
8. What do we know about designs and installations that have and have not worked in the past?

9. What should permittees be doing with pre-1991 municipal separate storm sewer (MS4) infrastructure, including instream features? Should they be left as is, or should permittees redesign and rebuild them?
10. Following completion of the current SAM study of tree hydrology:
 - 10.1. Gather examples of programs that are working well to preserve mature trees and soil volumes, and
 - 10.2. Discuss what additional information is needed to assess ways the SWMMWW tree credit might be more effective in achieving retention of mature trees and soil volumes.

LID, Structural BMPs, Retrofits, O&M

– Topics for Studies

11. Gather data about eligible Structural Stormwater Control (SSC) project types to inform future requirements and/or implementation.
12. Gather data to inform more site specific application of Ecology's 0.3 inches/hour infiltration rate criterion in the SWMMWW, and identify situations where flexibility might be warranted.
13. Quantify the habitat and other benefits and reduced O&M provided by mature vegetation in stormwater ponds. Are we still getting the pollutant removal? What are the tradeoffs?
14. Compare cleaned/uncleaned ditches to assess effectiveness of ditch cleaning at removing legacy pollutants. Include evaluation of likely release of pollutants.
15. Evaluate effectiveness of ditch enhancement techniques (i.e., turning ditches in to bioswales) at removing pollutants.
16. Informed by a white paper, do a controlled field study to evaluate maintenance thresholds required in the SWMMWW.

Source Control, Source Identification, and Illicit Discharge Detection and Elimination (IDDE)

– Topics for White Papers

17. What additional regional or statewide regulatory systems or approaches would likely support local government oversight of mobile businesses that discharge waste to the MS4?
 - 17.1. How can the business licensure process and requirements support proper waste handling?
 - 17.2. What are barriers to proper handling of waste?
18. What are the main barriers to compliance that business inspections should be prepared to address? Are regulatory incentives insufficient to get small businesses to adopt stormwater BMPs?
19. What is the range of options to address spills on permeable pavement, and what are the most effective and lower cost methods?
 - 19.1. Include approaches to assess the magnitude of a spill and the treatment layer's capacity.
 - 19.2. Consider a second phase to either expand the white paper question to green stormwater infrastructure in general after addressing permeable pavement, and/or follow up with a project to create consistent guidance.
20. What are the most effective approaches for notification and following up on firefighting activities after the emergency response is complete?
21. How can we improve cleanup and coordination with emergency responders to address vehicle leaks and spills across the region?
22. What are the most effective approaches to source control for bacteria? In what situations do E&O, IDDE, and O&M activities most effectively address bacteria problems?

Source Control, Source Identification, and IDDE

- Topics for Projects

23. Evaluate the IDDE data reported by permittees and gather additional information needed to identify mobile and other multi-jurisdictional business' violations, to support coordinated and effective multi-jurisdiction enforcement.
24. Develop a source control program guidance manual and trainings to help Phase II permittees implement new business inspection source control program requirements. Base this on existing Phase I business inspection programs.

Appendix B: SAM Letter of Intent



Letter of Intent (LOI) to Submit a Round 3 SAM Project Proposal for Effectiveness or Source Identification

*To submit an LOI for SAM funding consideration, fill out all fields in the Google based SAM LOI Form;
<https://forms.gle/hB8VLAfvqYfQX3XUA>.*

The following information is requested in the LOI Form:

1. Applicant Contact Information (provide one or two names):

Name(s):

Organization(s):

Phone(s):

Email(s):

2. Proposed Study Title:
3. Which topic(s) from the SAM Topics Priority List (Appendix A) list do you propose to address?
4. Permittees or agencies you are proposing to coordinate with (provide staff names and contact information, if known):
5. Select type of project being proposed:

Survey

White paper

Environmental

Other

Sampling Study

6. Short Description of the Proposed Study (250 word limit: describe how results will assess effectiveness and advance regional understanding and permittees' implementation of specific stormwater management approaches).
7. What type information will be collected or analyzed for this proposed study? (If existing permittees' data are needed, specify the type, and the expected timing of a request for existing information from Permittees.)
8. What are the anticipated measurable outcomes and key deliverables that will be produced by the proposed study, and how will they be used by Permittees and the Washington State Department of Ecology?

Submit LOI by Monday, February 28, 2020

Submit a complete LOI thru SAM LOI Form: <https://forms.gle/hB8VLAfvqYfQX3XUA>

Email the SAM Coordinator Brandi.Lubliner@ecy.wa.gov with questions.