Letter of intent (LOI)

Interested parties should submit a Letter of Intent (LOI) on or before February 28, 2023 for each individual proposal. Letter of intent should include applicant contact information and seven questions about proposed study. More details about SAM study selection process, eligibility and funding availability can be found in SAM REF guidelines in SAM Effectiveness webpage.

The respondent's email (**emma.trewhitt@piercecountywa.gov**) was recorded on submission of this form.

Applicant contact information

Applicant Full Name *

xEmma Trewhitt

Organization *

xPierce County

Phone number *

x253-798-4641

Proposed Study Information

1. Proposed Study Title *

Stormwater Related Benefits Evaluation for Restorative and Enhanced Maintenance Type SSCs

2. Which topic(s) from the SWG’s priority list do you propose to address? *

The proposed study topic should be in the SWG's priority list

Municipal Stormwater Permits #13: Fill gaps on benefits of retrofitting, restoration of riparian buffer, property acquisition, removal of impervious surfaces, floodplain reconnection or other actions used to address stormwater runoff not otherwise required in S.5.C (from Structural Stormwater Controls (SSC), Science Review and Synthesis Project)

3. Select type of project being proposed *

- [ ] Survey
- [x] Literature Review & Synthesis
- [ ] Environmental Sampling Study
- [ ] Other

4. 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

Results from the 2021 SSC Science Review and Synthesis Project identified that:

o The benefits of each SSC are influenced by both the contributing basin conditions and the specific SSC features (designed size, underlying soil conditions, etc.).

o It is easier to quantify benefits of SSCs listed in the SWMMWW and SWMMEW and proprietary SSCs approved through TAPE. These methods have prescribed design criteria and the sizing, siting, and pollutant removal qualities are known or presumed.

o SSCs without prescribed activities or a design criteria, such as riparian buffer, property acquisition, removal of impervious surfaces, floodplain reconnection or other actions, will require a focused analysis of the multiple and dynamic variables that can influence the stormwater related benefits (hydrology and water quality). A thorough investigation of all the influencing variables was outside of the scope of the 2021 SSC project.

We propose to perform an extensive literature search to identify and quantify the variables that influence each SSC type and document how these variables can influence the overall stormwater related benefits. We will analyze the data and variables that influence benefits to develop:

o User-friendly calculators for each SSC project/activity to estimate the overall benefits based on variables input by Permittees about potential SSC as well as site and contributing basin conditions.

o Where possible, the data will be further synthesized to develop simplified graphs and/or equations to estimate benefits using variables that appear to most influence the SSC benefits.

5. 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.

Our team includes staff that played an integral role on the SSC project and are familiar with the data/information that was collected, as well as the gaps that prevented quantifying the benefits of the SSCs that will be the focus of this study. Using this knowledge, our team will be able to hit the ground running with collecting and analyzing data for this SAM project. To understand influencing variables for each SSC type, we will begin with references cited in the 2021 SSC project whitepaper as well as the sources noted below and perform a systematic review of available literature focused on filling gaps. From our experience working on the SSC project, we known that time was a constraint and that the TAC decided to focus on where they thought we had the most information. This proposed SAM project gives us time to review those deprioritized sources more thoroughly. Additional sources of information are anticipated to include but not be limited to:

o Reports and data from agencies that may be collecting data to quantify the benefits of the programs they implement (e.g., Floodplains by Design for floodplain reconnection, or Conservation Commission for riparian restoration)

o Reports developed by Jurisdictions in Washington that focus on evaluating benefits of SSCs and/or prioritizing retrofits such as: Proposed Method for Prioritizing and Vetting Riparian Improvement and Restoration Projects in Thurston County

o Reports developed by Jurisdictions from other states that are doing similar work to prioritize retrofits and planning, such as the City of Springfield Sustainable Return on Investment

o Reports/Resources that utilize calculator types of tools to estimate stormwater related benefits such as the Center for Watershed Protections Green Stormwater Infrastructure simple Pollutant Load reduction Estimator (Green-SIMPLE).

o Governmental reports on relevant topics, such as those published by the National Cooperative Highway Research Program (NCHRP)

o Journal articles and documents noted on the Building Cities in the Rain website

o Ecology Stormwater Management Manual and other Washington Manuals that have received an Ecology equivalency approval.

Surrogate data/information may be used to fill gaps after a thorough assessment of applicability/usability has been performed. Surrogate information and any associated assumptions will be documented. An example of surrogate information that may be used is to estimate pollutant loads or concentrations from a similar land use where desired land use data doesn't exist.

The expected duration of this proposed project is 12-15 months from the date the contract is executed. We anticipate that the data and information needed will be collected in the first three to four months of the project.

6. 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? *

Our team also includes staff who were involved in the SSC Policy Advisory Committee (PAC) and have experience as a Permittee developing and implementing stormwater retrofit programs. We will utilize this experience to provide permittees with user-friendly tools to estimate benefits of these enhanced maintenance and restorative-type of SSCs that can help inform retrofit prioritization plan development as well as meet permit requirements. This is expected to include:

o A whitepaper that synthesizes available literature and data which will be used to understand effectiveness of each SSC type and associated variables that influence the SSC benefits.

o User-friendly calculators as well as simplified equations and graphs that can be used for estimating the overall stormwater related benefits of each of the restorative and enhanced maintenance SSCs.

o Recommendations for applying the results, including how the results can be incorporated into the assessment of benefits to inform SSC point system/metrics to meet NPDES MS4 Permit requirements.

o Recommendations for more research that could fine tune the evaluation and assessment of benefits.

7. Permittees or agencies you are proposing to coordinate with (provide staff names and contact information, if known) *

Enter "NA" if not applicable.

Carly Greyell from King County who leads SUSTAIN coordination has agreed to be a TAC member for this project. Additional TAC members will be identified in the project proposal.