



Effectiveness and Source Identification Priorities Workshop

Wednesday, February 27, 2019 from 9:30 am – 12:00 pm
Renton Community Center

Description: An opportunity to provide feedback to the Stormwater Work Group on priorities for the Stormwater Action Monitoring (SAM) effectiveness studies and source identification projects that will be funded during the 2019 municipal stormwater permit cycle.

Come prepared: Read the SAM Fact Sheets at ecology.wa.gov/SAM. Fact Sheets #3 and #12 describe the findings from bioretention studies, #6 and #8 are about retrofits, #5 and #7 are about illicit discharges and source control.



AGENDA

- 9:30 Welcome and introductions (*Dana de Leon, SWG Chair*)
- 9:35 Regulatory context for SAM and decision making process of the Stormwater Work Group (*Karen Dinicola, SWG Project Manager*)
- 9:40 Context for SAM effectiveness studies and source identification projects (*Brandi Lubliner, SAM Coordinator*)
- 9:55 Making stakeholder recommendations for priority topics for SAM-funded projects (*Melissa Ivancevich, SWG Source Identification Subgroup Chair, and Don McQuilliams, SWG Effectiveness Subgroup Chair*)
- 10:00 Table discussions to identify the topic areas that will be included in SAM's next RFP (*all*)
 - 1. Education and outreach (20 minutes)
 - 2. LID, Structural BMPs, and Retrofits (20 minutes) – *followed by a brief break*
 - 3. Construction, Operation and Maintenance (20 minutes)
 - 4. Source Control, Source Identification, and IDDE (20 minutes)
- 11:30 Report out (*table representatives*)
- 11:55 Next steps (*Karen Dinicola and Brandi Lubliner*)
- 12:00 Adjourn morning session, lunch on site provided for those who ordered during registration

TABLE DISCUSSION #1

Education and Outreach

- 1 What is the most effective way to reach a big audience on a small budget?
- 2 Which stormwater problems can be effectively addressed by E&O, and which cannot?
- 3 How can we better understand and address barriers to compliance?
- 4 How effective are financial incentives?
- 5 What incentives are most effective for small businesses?
- 6 How to measure behavior change and duration, in particular for source control BMPs at businesses
- 7 What are the best ways to educate elected officials and community about benefits of permit implementation?
- 8 What are the best ways to educate elected officials and community to support stormwater utility funding?
- 9 What are the best ways to educate elected officials and community to support retrofit funding?
- 10 What are the best ways to expand use and acceptance of bioretention and raingardens?
- 11 What are the best approaches to get businesses implementing source control BMPs?
- 12 What are the best approaches for mobile businesses?
- 13 What are the best approaches for homeless populations?
- 14 What are the best approaches for food trucks and coffee stands?
- 15 What are the best approaches for Homeowners Associations about private stormwater facility maintenance?
- 16 What are the best approaches for homeowners, businesses and landscapers about reducing pesticide use?
- 17 What are the best approaches for the trucking industry?
- 18 What are the best approaches for restaurant staff about oil and grease?
- 19 What are the best approaches for pet owners about proper disposal of pet waste?
- 20 What are the best approaches to prevent RV dumping into the MS4?
- 21 What are the best approaches for individual fire stations and for independent fire districts?
- 22 What are the approaches for improving livestock mud and manure management?
- 23 Please provide a complete set of E&O tools any permittee can use to meet permit requirements
- 24 Review STORM library to cull misleading information

TABLE DISCUSSION #2

Low Impact Development

- 1 What are the best LID facilities for various ranges of onsite infiltration rates?
- 2 Reassess the 0.3 inches/hour infiltration rate criterion
- 3 How will bioretention perform over time? Will the toxicity reduction benefit continue?
- 4 What are the best incentives for project proponents to preserve and maintain trees in their final designs?
- 5 Provide training on proper LID installation/inspection of LID at construction sites to ensure proper installation
- 6 How does bioretention affect property values?
- 7 Improve the bioretention soil mix specifications to address other pollutants and act more like native soil
- 8 Provide list of plants for homeowners to easily purchase, plant, and maintain without watering or pesticides
- 9 Implement the SAM raingarden assessment protocol and evaluate the data
- 10 How to quantify the benefit of replacing traditional pavement with permeable pavement

Structural BMPs and Retrofits

- 11 Provide training on proper BMP installation, especially LID
- 12 Provide SWMMWW training and certification to improve understanding and application of design standards
- 13 What outfall designs are best at reducing trash?
- 14 Which BMPs are most effective under typical pollutant loadings or for ranges of sediment particle sizes?
- 15 Gather data about structural retrofits and other controls to support adjustments to SSC point assignments
- 16 Study stream flashiness in an area with lots of redevelopment to assess SWMMWW effectiveness
- 17 What do we know about designs and installations that have and have not worked in the past?
- 18 What retrofits are most effective for reducing bacteria and nutrients?
- 19 Which retrofits come closest to meeting performance criteria under various scenarios?
- 20 What is the best design to reduce thermal shock to receiving water following summer thunderstorms?
- 21 How to ensure protection of LID during construction
- 22 Which is more effective: permeable pavement, or a vault under the roadway?
- 23 How to best assess whether and how groundwater infiltration will affect a facility?
- 24 Can we design engineered facilities with trees or floating wetlands within them?
- 25 What is the best way to site, design, and monitor relatively deep UIC wells?
- 26 How can we quantify the habitat improvements provided by mature vegetation in stormwater ponds?
- 27 What should jurisdictions be doing with old MS4 infrastructure, including instream features?

TABLE DISCUSSION #3

Construction

- 1 What are the most effective BMPs for projects in various settings?
- 2 What are the highest priority maintenance activities for construction site BMPs?
- 3 What are the best approaches to preserve trees and adequate native soil volume during construction?
- 4 What are effective inspection thresholds/frequencies and enforcement for projects in various settings?
- 5 How can we improve and streamline Ecology's and locals' inspections?
- 6 How can we effectively combine TESC inspections with other inspections during construction?
- 7 Are IDDE problems mainly due to inadequate SWPPPs or due to improper implementation of good SWPPPs?
- 8 How to ensure grading follows the design plan
- 9 How well are new catch basin inserts working to control turbid runoff?
- 10 What is the best approach for sizing a baker tank?

Operation and Maintenance

- 11 What O&M is needed to avoid bioretention failures?
- 12 Is it more effective for systems to be privately or publicly maintained?
- 13 What are the highest priorities for maintenance among site specific and overall system facilities?
- 14 What do data about prior maintenance practices tell us about effective timing and prioritization of O&M?
- 15 Evaluate required maintenance thresholds and water quality benefits
- 16 Can we more cost-effectively clean vaults, ponds, infiltration trenches, and catch basins?
- 17 How effective is ditch cleaning at removing legacy pollutants? How do cleaned ditches compare to uncleaned?
- 18 What is the most effective way to reduce the decline in infiltration rate of pervious pavement over time?
- 19 What are permeable pavement lifecycle costs versus alternative BMPs?
- 20 Provide a certification program for private O&M service providers
- 21 When is it more effective to replace/retrofit versus provide significant maintenance to a facility?
- 22 Provide training and guidance for catch basin inspections and maintenance
- 23 Develop a protocol to evaluate maintenance needs and lifecycle costs of proprietary BMPs
- 24 What are the simplest, and therefore most likely to be implemented, maintenance practices?
- 25 What is the best asset management software?
- 26 What is the most effective street sweeping speed and number of passes required to clean?

TABLE DISCUSSION #4

Source Control

- 1 Prioritized list of business types that are most likely to impact water quality or cause an illicit discharge
- 2 Develop a model for a joint inspection program; can we train our inspectors differently?
- 3 Incentives and easy-to-use info for businesses to implement BMPs and keep spills kits on hand
- 4 Can we quantify the value of operational source control BMPs to include in modeling and gather support?
- 5 Better assessment of pollutant loadings from industrial facilities, including compacted vegetated areas
- 6 What is the best approach for following up on emergency firefighting activities?
- 7 What are the best locations and stormwater treatment facilities for firefighting training?
- 8 What are the best BMPs for events like farmers markets, fireworks shows, etc?
- 9 How can we effectively address the problems of vehicle leaks and spills from accidents across the region?
- 10 Guidance for dog parks and rooftop dog runs
- 11 Assess potential for drinking water contamination by stormwater infiltration near CARAs
- 12 What are the best approaches for controlling agricultural runoff?

Source Identification & Illicit Discharge Detection and Elimination (IDDE)

- 13 How to improve spill reporting via hotline, including possibly an MS4-specific regional hotline?
- 14 How to improve referrals, including possibly an MS4-specific regional hotline?
- 15 List of best IDDE methods and approaches for various situations
- 16 Develop source tracing look-up tables for profiles of various activities
- 17 Better bacterial source tracing methods and approaches
- 18 A way to track mobile business' violations and coordinate a multi-jurisdiction enforcement approach
- 19 Provide data for the state to evaluate new licensure requirements for mobile businesses, including food trucks
- 20 How to best base response on actual environmental/human health threats
- 21 More and better training on IDDE, including for construction sites
- 22 Methods to address particular types of spills, i.e., long, linear spills and spills on permeable pavement
- 23 How can we improve regional and local understanding of what parameters are problems, where?
- 24 Provide an assessment that justifies replacing a bacteria TMDL with this aspect of the IDDE program
- 25 Basin delineation project to support source ID efforts
- 26 Review LSC program findings and reports to prioritize focus on hot spots and particular activities