

Stormwater Tools Improvement Project

Prioritized Action Plan

Based on Action Items and Negotiations from October 30, 2013 Meeting

List of Meeting Participants

Jason Kuchnicki, NDEP; Bob Larsen, LRWQCB; Tyler Thew, NDOT; Brendan Ferry, EDOT; Brent Wolfe, NHC; and TJ Middlemis-Brown, NHC

Structure for Continued Communication and Coordination

1. As part of the project's scope of work, a project advisory committee (PAC) will be formed to review early draft products and to discuss ongoing tool improvements from the perspective of the organizations represented by the PAC.
2. PAC meetings, which will be web conferences, will be held monthly on a recurring day and time.
3. Bob and Jason will be on the PAC to represent the regulators.
4. Brendan and Tyler will be on the PAC. Their primary role will be to ensure that tool improvements meet the primary needs for the collective group of implementers.
5. Brent proposed that Eric Friedlander (City of South Lake Tahoe) and Karin Staggs (NTCD) also be members of the PAC. Brendan and Tyler supported this idea. Eric and Karin's role will be to review and comment on the technical aspects of tool improvements.

Draft Prioritized Action Plan

1. Table 1 presents the draft Prioritized Action Plan for implementing the stormwater tool improvements with the available budget. Tiers of improvements are defined as follows:
 - a. Tier 1 – essential advancements completed within this project
 - b. Tier 2 – highly desirable improvements (tasks likely completed provided that during testing stakeholders don't have more requests for refining Tier 1 improvements)
 - c. Tier 3 – important refinements to be completed as part of a future effort
2. The current prioritization in Table 1 is based on 1) averaged rankings between the implementers and regulators; and 2) negotiated promotions or demotions resulting from the discussion at the October 30th meeting. The rationale for all promotions or demotions is included in the clarifying comments following Table 1.
3. Additional clarifications regarding the scope of a certain tool improvement, or objectives of a tool improvement, are also provided after Table 1 based on discussion during the meeting.
4. Table 1 includes three new columns
 - a. "Negotiated Ranking" – identifies promoted/demoted improvements
 - b. "OK to Start?" – direction provided to project team for initiating improvement
 - c. "Comment Reference" – the number references the clarifying comment provided after Table 1

Table 1 – Draft Prioritized Action Plan

Tier	Tool	Task Description	Cost	Average Ranking of Imps/Regs	Negotiated Ranking	Cumulative Cost	OK to Start?	Clarifying Comments
1	Road RAM	Allow user to manually enter Road RAM scores	\$24,000	3.00		\$24,000	Yes	
1	PLRM	Rebuild PLRM algorithms to better align with output of road condition assessments	\$45,000	2.96		\$69,000	Yes	1
1	PLRM	Create GIS pre-processing and import tool (GIS to XML)	\$32,000	2.18	Tier 1	\$101,000	Hold	2
1	TIST	Increase functionality and integration with other tools	\$28,000	2.93		\$129,000	Yes	
1	PLRM	Standardize GIS data	\$9,000	2.54		\$138,000	Yes	
1	BMP RAM	Refine step-wise guidance and procedures	\$11,000	2.54		\$149,000	Yes	
1	PLRM	Provide consistent methods and guidance for modeling transportation corridors	\$9,000	2.50		\$158,000	Yes	
1	BMP RAM	Rework vegetation classification procedure	\$5,000	2.14	Tier 1	\$163,000	Yes	3
1	BMP RAM	Increase number of characters in BMP RAM ID	\$2,000	1.57	Tier 1	\$165,000	Yes	4
1	BMP RAM	Improve relationship between PLRM and BMP RAM user inputs	\$12,000	2.50		\$177,000	Yes	
1	Road RAM	Simplify upload procedures	\$9,000	2.50		\$186,000	Yes	
1	Road RAM	Improve or automate workflow paths for creating inputs	\$9,000	2.50		\$195,000	Yes	
1	BMP RAM	Continue beta testing and improve usability	\$15,000	2.46		\$210,000	Hold	5
1	PLRM	Increase model stability	\$21,000	2.39		\$231,000	Yes	
2	Road RAM	Allow registration of road operations by jurisdiction	\$20,000	2.64	Tier 2	\$251,000	Hold	6
2	PLRM	Improve file management structure	\$18,000	2.29		\$269,000	Hold	
2	PLRM	Link FSP loading rates to estimates of maintenance intervals	\$21,000	2.21		\$290,000	Hold	
2	PLRM	Create output identifying primary elements providing load reduction	\$22,000	2.18		\$312,000	Hold	7

Tier	Tool	Task Description	Cost	Average Ranking of Imps/Regs	Negotiated Ranking	Cumulative Cost	OK to Start?	Clarifying Comments
3	PLRM	Display pollutant generation output by urban land use within each catchment	\$10,000	1.64	Tier 2	\$322,000	Hold	8
3	PLRM	Improve ICIA representation	\$36,000	2.14		\$358,000	No	
3	PLRM	Ensure all BMPs in BMP RAM can be modeled in PLRM	\$19,000	2.11		\$377,000	Hold	9
3	PLRM	Improve road shoulder infiltration algorithms and guidance	\$18,000	2.00		\$395,000	Hold	10
3	PLRM	Improve approach for defining impervious connectivity and drainage conditions	\$12,000	1.93		\$407,000	No	
3	Road RAM	Modify current tool layout	\$24,000	1.93		\$431,000	No	
3	TIST	Create a single user manual	\$34,000	1.93		\$465,000	No	
3	PLRM	Update CECs and treatment algorithms	\$12,000	1.86		\$477,000	Hold	11
3	TIST	Add hints and suggestions for common errors and procedures	\$24,000	1.71		\$501,000	No	
3	Road RAM	Complete initial setup steps for each jurisdiction	\$30,000	2.39	Tier 3	\$531,000	Hold	12
3	PLRM	Add cut slope erosion algorithms	\$27,000	1.68		\$558,000	Hold	13
3	Road RAM	Improve user setup functions	\$5,000	2.21	Tier 3	\$563,000	Hold	14
3	BMP RAM	Measured draw-down rates replacing CHP measurements	\$7,000	1.64		\$570,000	No	
3	PLRM	Develop catchment connectivity algorithms	\$21,000	1.54		\$591,000	Hold	15
3	PLRM	Rebuild flexible volume-discharge relationships for SWTs	\$13,000	1.54		\$604,000	No	
3	Road RAM	Align Road RAM manual and online Road RAM tool	\$9,000	1.54		\$613,000	No	
3	PLRM	Improve model structure to assist with calibration to measured data	\$26,000	1.46		\$639,000	No	
3	PLRM	Add unpaved road algorithms	\$15,000	1.14		\$654,000	No	

Clarifying Comments

1. Improvement will allow for direct assignment of an expected road condition score within PLRM. This expected road condition score will be linked to a characteristic runoff concentration (CRC).
2. Improvement promoted into the Tier 1 category. The discussion recognized that the improvement could save significant time and resources over the long-run and promote more consistency with the development of PLRM inputs. Developers are on “hold” regarding initiation of this improvement pending approval for this promotion from the larger group of implementers.
3. Improvement promoted into the Tier 1 category. BMP RAM acceptance is a key objective for the project and the improvement has a relatively low cost.
4. Improvement promoted into the Tier 1 category. BMP RAM use is a key objective for the project and the improvement has a relatively low cost.
5. Title of improvement was modified to better reflect the objective of the work. Only limited testing of BMP RAM v2 has been completed to date. The implementers were requested to beta test BMP RAM v2, but responses and actual testing conducted was minimal. This task budgets time for beta testing and updating of the tool if usability issues are identified. Beta testing will be conducted by project team members other than the BMP RAM developers. BMP RAM acceptance and use is a key objective of the project. Developers are on “hold” regarding initiation of this improvement pending review of this clarification with the larger group of implementers.
6. Improvement demoted to Tier 2. Discussion focused on reducing the cost of this improvement and whether this improvement could be addressed with a policy agreement and minimal structural changes to the TIST. Both the implementers and regulators agreed that allowing some type of broader process for registering and monitoring jurisdictional road operations is a high priority regardless of its ranking as a tool improvement.
7. Intent of this improvement is to provide more diagnostic tools to 1) ensure that PLRM models have been developed correctly between the baseline and expected condition inputs; and 2) more clearly identify for the user the actions producing significant load reductions, including changes within catchments.
8. Improvement falls within Tier 3 category based on available budget and estimated work effort for each tool improvement. Promoted to the top of the Tier 3 list in case budget becomes available at the end of the project.
9. This improvement is related to the inclusion of an explicit algorithm in PLRM to simulate the functions of pervious pavement. May address this issue with a low cost improvement by including more documentation on how to model this situation within the current version of PLRM.
10. May address this issue with a low cost improvement by including more documentation on how to modify infiltration rates of road shoulders using the current version of PLRM.
11. Will remove default CEC values for Treatment Vaults in PLRM. If using a treatment vault, user will need to define and sight the source/reference for the CEC values used.

12. Idea of this improvement is for the project team to provide assistance to jurisdictions to complete the initial steps of the road condition assessment process to prioritize and rank their road networks for water quality. Improvement was demoted to Tier 3 because it uses a notable amount of tool improvement resources, could be completed by others, and could potentially be fundable through other efforts.
13. This is a highly desirable improvement for NDOT and Washoe County. NDOT may consider funding this improvement.
14. Demoted to Tier 3. Intent of improvement is to improve login access to the Road RAM tool similar to TIST and BMP RAM functions.
15. Tyler suggested adding an explicit connectivity adjustment option into PLRM so that PLRM output identifies loading to receiving waters. This option, or a permutation of this option, may be explored.

Next Steps for Road Assessment Field Protocols

1. Proposed policy language for regulator acceptance of alternative road assessment field protocols demonstrating equivalency to Road RAM scores generated with the current protocols is as follows:
 - a. “Alternative road assessment field protocols shall be validated by a minimum of 50 samples that are reasonably distributed across 5 categories of road condition scores (0-1, 1-2, 2-3, 3-4, and 4-5). At least 90% of the samples (45 out of 50) using the alternative protocols must be within 0.5 of a Road RAM score generated by the current protocols. If this threshold is not met through the validation process, then the work plan, proposed alternative field protocols, and criteria for demonstrating equivalency shall be reviewed and potentially revised in coordination with Lahontan and NDEP.”
2. Informal work plan submittals for developing alternative field protocols are on track for submittal to Lahontan and NDEP by the second week in November (2013).
3. The next road condition assessment meeting will continue the discussion on the following topics:
 - a. Number of road condition assessment measurements needed in any given year. Including, the concept and need for a “calibration” year that includes intensive sampling, which is currently a requirement of the Lake Clarity Crediting Program.
 - b. Acceptable approaches for jurisdictional registration of road operations.

Next Steps for BMP RAM

1. Regulators expressed the need for implementer engagement on the BMP RAM. If there are significant issues they need to be identified and addressed during this project. Brendan will send an email to the implementers expressing this need.
2. El Dorado County expressed the need for the TIST or BMP RAM tools to accept inputs from their BMP database. The project team will coordinate with El Dorado County during any refinements to the BMP RAM tool.
3. Current issues identified by the implementers regarding the BMP RAM field protocols, include:
 - A) specificity of vegetation classes; and
 - B) number of CHP measurements required