

Stormwater Retrofit Project Management Team Meeting

June 6, 2013 9:00 am to 12:00 pm

Attendance:

Jim Simmonds, King County (KC); Project Lead
Beth LeDoux, KC
Tamie Kellogg, Kellogg Consulting; Facilitator
Emily Santee, Floyd | Snider; Recorder
Ben Parrish, City of Covington
Chris Knutson
Curtis DeGasperi, KC
Dan Smith, KC

Dino Marshalonis, Environmental Protection
Agency (EPA)
Ed O'Brien, Washington State Department of
Ecology (Ecology)
Elissa Ostergaard, KC
Erkan Istanbuluoglu, University of Washington
David Funke, KC
Jeff Burkey, KC
Mark Wilgus, KC

Introductions.

Jim Simmonds introduces the meeting and agenda, including debriefing the last workshop.

Upcoming Outreach and One-on-One Meetings to Stakeholders.

A King County representative from the Project Management Team (PMT) has provided an update to the WRIA9 technical group and to Seattle Public Utilities (SPU), as well as many King County wastewater folks.

Upcoming stakeholder meetings that the project team would like to be involved with, and groups that the project team would like to brief:

1. **The Green/Duwamish WEF.** Their next meeting is August 9th, with another meeting in September that may be more interesting. The technical committee is a good group to give updates to, though decisions are made by the management board. To get on the August 9th agenda, the PMT will likely need to frame the discussion in terms of how jurisdictions and stakeholders will use the information, and how it might change based on the input received.
2. **Stormwater permit coordinator group.** No upcoming meetings; outreach not yet scheduled.
3. **Green/Duwamish Tech Committee.** Meeting on July 1 that we may be able to give a briefing at, with a followup meeting in September. WRIA9 PMT rep will try to attend both meetings.
4. **Puget Sound Partners (PSP).**
5. **EPA Regional Administrator.**
6. **Jeff Stern.** Jeff has citing going on for new treatment plant in the Duwamish within the City of Seattle; just outside the project area.
7. **Various Ecology Groups,** including Stormwater Permit Managers, TMDL regulators, and watershed level analysis staff from both the Northwest office and Headquarters. This group requires its own briefing, as they may want to be involved in framing how the results are presented to others. Joan Nolan may be a good contact to help organize a meeting at Ecology Northwest.
8. **Miller Walker Stormwater Retrofit Partners Group.** Coordinate with Elissa Ostergaard and bring the SUSTAIN work/results to this group to help inform them on effort being done on this topic.

Given the variety of groups to brief, it may be easier to invite interested parties to a **brownbag** lunch briefing rather than sending Jim and Curtis and Beth out to talk with all these different groups.

If there are any other people or groups who need to be included, notify Beth LeDoux so she may add them to the invitee list or otherwise appropriately contact them.

Debrief the Workshop Input.

Notes from the workshop were sent to the PMT group in draft form. **If you have comments on the notes, please send them to Beth by Friday.**

Beth collated the notes from each table during the table discussions at the stakeholder meeting, and will distribute them to the PMT group. These will be posted to the web, as well as the summary document identifying common thoughts voiced at the workshop. So far, only the summary document has been distributed to the PMT.

Additionally, the summary document attempts to respond to the themes heard in table discussions at the workshop. So far, nine major themes have been identified and will be responded to. The responses will indicate what actions we are taking to respond to the common concerns brought up by stakeholders. The PMT group reviewed the nine themes identified in Beth's initial summary to improve the draft responses and discussed additional comments made by stakeholders, and how to address these additional concerns. (refer to separate notes sheet on this topic).

Status of Reports

1. Rich Horner's report has been posted to the website in final form. No additional comments were received after the workshop.
2. Curtis DeGasperi has received comments from PMT group members and hopes to finalize his report by June 14.
3. Jeff Burkey has received comments on the HSPF report and hopes to finalize the report by June 14, to be sent to stakeholders. If stakeholder review of the report results in identification of substantive issues, Jeff will contact the PMT for resolution of stakeholder comments.

Present and Discuss the Model for Scaling Up

Jim Simmonds and others from the PMT came up with a scale up plan. Scale up will occur by first defining a 100-acre hypothetical catchment with a known set of characteristics. Curtis DeGasperi has selected the optimized treatment train for the hypothetical catchment to be "green plus gray infrastructure"; the cost of green plus gray infrastructure was similar to green infrastructure, but green plus gray infrastructure was more effective. The treatment train uses cisterns instead of rain barrels. Then the PMT will model the optimized results for different permutations of the following parameters: four different land use types, three different soil types, two slopes, two land costs, and three precipitation levels (~140 different permutations).

Each 100 acre WRIA9 catchment will be subdivided into areas that are representative of the permutations that were modeled for the hypothetical catchment. The weighted average of the optimization results for the relevant permutations may be calculated according to the percent of

the WRIA9 catchment they represent to arrive at WRIA9 specific optimized results. This approach will reduce the level of effort required for scale up, because it will not be necessary to model every catchment in WRIA9 specifically. Jeff Burkey has already determined the characteristics (land use, soil type, etc) for each of the 100-acre WRIA9 catchments as part of the HSPF modeling. The scale up report will likely present the results two ways, presenting both permutation results and regional results.

This scheme doesn't account for municipalities that have already installed rain barrels and other stormwater management facilities: the optimized results of the permutations are based on a set treatment train. The PMT group discussed the best way to account for differences in infrastructure between various municipalities, and determined that for this planning level approach, the best approach is to suggest that individual jurisdictions take the optimized result for their area of interest and compare the number and type stormwater treatment facilities present to those recommended by the optimized result. Then, the jurisdiction can add or subtract the difference in the number and type of infrastructure between the jurisdiction and the optimized result to obtain an estimate of the additional infrastructure required. Additional considerations:

- There may already be an existing inventory of stormwater management facilities in various jurisdictions that jurisdictions can use for this analysis; as part of NPDES permitting, stormwater ponds have been inventoried.
- Not all existing infrastructure will be directly relatable to the facilities predicted to be required by the optimized scenarios, as there may be significant differences in construction, O&M, or other factors which affect the function of existing facilities to the facilities evaluated in the SUSTAIN model.

Changing Land Use

Over the next 30 years, land use is likely to change as the population grows, which could impact the effectiveness of the optimized results and the costs associated with retrofitting (because more land is being redeveloped). The PMT is faced with the challenge of ensuring that planning level retrofit costs don't include stormwater managements costs that would be absorbed by the developer as land is redeveloped (e.g. conversion from parking lots to multifamily homes). Jim Simmonds proposes doing land use change analysis to determine the percentage of the area that would be redeveloped in the next 30 years, and incorporating this analysis into the scale up by performing post-processing calculations to remove the costs & treatment associated with redevelopment from the percentage of land that is predicted to require retrofits.

Some group members think that this is not necessary because the costs are spread over 30 years; others think that government officials will not want the costs to include both public and private expenditure, so it is a worthwhile exercise. The PMT decided to move forward with this analysis, using current requirements for stormwater treatment for redevelopment projects (rather than proposed requirements). Curtis, Jim, Jeff, Dino, Ben, and Mark formed a sub-committee to discuss methodology behind this analysis further.

Note: in addition to redevelopment there will also be new development, which will not be accounted for in the SUSTAIN model or post-processing.

Climate Change

Stakeholders would like the PMT group to perform sensitivity analysis or otherwise assess the uncertainty associated with the model results as a result of climate change. Various climate change models exist; some predict greater precipitation, others less. Due to the variability in the climate change models, the PMT group proposes to perform uncertainty analysis on this topic rather than performing additional model runs in HSPF or SUSTAIN. The PMT notes that if the receiving water bodies are also changing as a result of climate change, confidence in the modeled results, which are based on achieving water quality (BI-IBI) targets, is also reduced. Dino has looked at the average of the results of several climate models, and notes that overall precipitation is greater, but other changes between current conditions and predicted future conditions are not very large. Jim, Dino, Eric, Marc and Erkan formed a subcommittee to be involved in uncertainty analysis pertaining to climate change.

An invitation to the next PMT meeting (expected to be in late August or early September) will be sent out soon – a date has not yet been determined. We may also send out an invite for a brownbag, if we decide to have one. If you are part of one of the subcommittees, Jim Simmonds or Beth LeDoux will send you an invitation to a committee work session.

The next stakeholder workshop will be the morning of Thursday, October 31st 2013: mark your calendars!