

Notes from Management Team Meeting

WRIA 9 Stormwater Retrofit Plan

June 5, 2014, King Street Center

Attendees

Jim Simmonds, King County (facilitator); Chris Thorn, City of Auburn; Elissa Ostergaard, King County; Brendan Grant, King County; Doug Navetski, King County; Ben Parrish, City of Covington; Dr. Rich Horner, University of Washington; Cathie Scott, King County (note taker); Curtis DeGasperi, King County; Dan Smith, King County; Jeff Burkey, King County; David Batts, King County; Bill Zachman, EPA Region 10; David Funke, King County; Mark Wilgus, King County; Elissa Ostergaard, King County; Olivia Wright, King County; Tamie Kellogg, Kellogg Consulting; Natasha Walker, Kellogg Consulting

Introductions and General Update

- Attendees introduced themselves.
- Jim Simmonds passed out the draft project summary report and a project update handout (Attachment A).

Project Update

Presentation

Olivia updated the team on project progress since the last management team meeting:

- Revised the project reports to reflect comments from stakeholders and team.
- Adjusted the amount of storage needed in WRIA 9 to 2.5 inches to reflect existing facilities and climate change (average of rural and urban areas). It was assumed that existing facilities provide 0.5 inch of storage and that climate change will increase the storage requirements by 10 percent.
- Listed five actions to ensure that all needed control facilities are built in the next 30 years. These are not recommendations. The five actions are as follows:
 - Strengthen stormwater requirements during new and redevelopment (lower thresholds and require a fee-in-lieu for incomplete mitigation).
 - Build regional facilities.
 - Retrofit roads and highways.
 - Retrofit all other non-forested lands not redeveloped in the next 30 years.
 - Operate and maintain public facilities and inspect private facilities.
- Formulated an alternative for completing a public stormwater control program in which regional facilities would be built over the entire project area, except roads and highways, in the next 100 years (1/100th of facilities built each year). The alternative assumes a 1.6 percent new and redevelopment rate. The alternative would require implementation of two of the proposed actions: strengthened regulations and the means to operate and maintain public facilities and

inspect private facilities. Estimated annual costs of the 100-year program compared with the 30-year program are as follows:

- **30-year program annual costs**
 - \$210 million (capital)
 - Increase annually up to \$120 million (operation and maintenance)
 - Increase annually up to \$530 million (inspection and enforcement)
- **100-year program annual costs**
 - \$46 million (capital)
 - Increase annually up to \$8 million (operation and maintenance)
 - Increase annually up to \$530 million (inspection and enforcement) but more gradually than the 30-year program
- Extrapolated costs to the Puget Sound basin by scaling urban and rural costs associated with low and high costs of the WRIA 9 project area. The range of estimated lifecycle cost for a basinwide public stormwater program assuming a 30-year lifecycle is \$47 to \$152 billion. A breakdown of estimated annual costs for both a 30-year and 100-year program is as follows:
 - **30-year program annual costs**
 - \$4.3 billion (capital)
 - Increase annually up to \$2.3 billion (operation and maintenance)
 - Increase annually up to \$11 billion (inspection and enforcement)
 - **100-year program annual costs**
 - \$650 million (capital)
 - Increase annually up to \$60 million (operation and maintenance)
 - Increase annually up to \$11 billion (inspection and enforcement) but more gradually than the 30-year program
- **NOTE:** All costs are given in 2013 dollars.

Questions, Comments, and Suggestions,

The management team offered the following questions, comments, and suggestions:

- Dr. Horner will revise his report on existing facilities to incorporate the estimate of storage needed.
- Suggestions on the 100-year alternative:
 - Estimate the average cost per jurisdiction, including for the Washington State Department of Transportation.
 - Mention the 100-year alternative in the summary report. (Currently, it is in the SUSTAIN report only.)
Action: Elissa will give Jim specific guidance on how to alter the summary report.
 - Make it clear that the 30-year program is different than the 100-year program, which is a public program only.

- There were questions about cost assumptions for the Puget Sound basin estimates. Olivia said that she assumed higher land costs in urban areas for detention facilities and that different best management practices were chosen for high and low land cost areas.
- It was suggested that the summary report reference the other project reports.
- In regard to routing and stream quality issues, the regulations assume that stormwater is treated at its source.

Reflections on the Project

Jim asked attendees to reflect on lessons learned, what has gone well, and what could have been done differently on the project.

Lessons learned

- How much O&M and inspection cost.
- How redevelopment could provide much of the needed mitigation and documenting this finding.
- The need to tighten regulations.
- Interesting to learn about how much maintenance is required.
- Learning that we actually can restore conditions, regardless of the likelihood that it will happen.
- That it is possible to develop reasonable cost estimates.
- The biological (B-IBI) and physical (high pulse count) relationship is interesting.
- Demonstrated that a regional group can do broad-scale watershed analysis with continuity.
- Provided a good template that needs to be replicated.
- To make a difference, the work has to be done comprehensively and well.
- Learning how to make adjustments in order to reduce cost estimates.
- The degree of interest in results from various organizations, including state agencies, WRIAs, and local jurisdictions.
- Interesting to see how data goes in and how model output worked.
- How difficult it is to use SUSTAIN.
- Surprising that inspection and O&M costs are greater than capital costs.

What Went Well

- Process was thorough and covered all aspects of modeling.
- Hydrologic monitoring was done extremely well; could calibrate turbidity modeling.
- Team was adept at relating disparate elements.
- The summary report is great.

- A lot changed during the process. The team was adaptable and worked well within the constraints.
- The team was able to work out differences of opinion and develop the best information given the constraints.
- It was well thought out. Feel confident in the results.
- Very competent, organized group.
- Reports are interesting and well-written.
- Getting jurisdictions together.
- Now we have resources to make the case with officials. Funding is challenging.
- Good leadership.
- Perseverance with SUSTAIN.

What Could Have Been Done Differently

- Would like to learn more about how green stormwater infrastructure works.
- Go backward to see what pre-1990 would look like.
- Need a wider net on cost estimating—divide up costs in more ways.
- More involvement with local jurisdictions, like holding meetings with them.
- Pick a model that works and has a good foundation.
- Revisit costs.
- Using pulse counts in 15-minute increments may yield better B-IBI-HPC relationship.

Suggestions for Future Work (Possible Phase 2)

- Next step is getting on handle on funding. Need better information on parcels and redevelopment (linked to permits?). Should there be a regional stormwater fee?
- Look into actual effects of improvements. Redmond is doing a watershed plan.
- King County could apply the lessons learned on this project to help develop watershed plans (through grants).
- Apply the information from this project on a site-specific scale (look at temporal-spatial components)

Conclusion

The project is now completed. There will be no further meetings.