



**Meeting Notes**

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**Meeting Date:** August 28, 2017      **Time:** 1:30 – 3:30 pm  
**Meeting Location:** Johnson County Transit Facility, 1701 W Old Hwy 56, Olathe, KS 66061

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**Attendees:**

<b>Water Quality Focus Sub-Committee</b>	<b>JC SMP</b>	<b>Consultant Team</b>
Patty Ogle – City of Overland Park	Heather Schmidt	Patti Banks – Vireo
Pam Fortun – City of Overland Park	Sarah Smith	Triveece Penelton – Vireo
Bryan Dyer – City of Merriam	Lee Kellenberger	Andrew Smith – B&V
Neil Meredith – City of Olathe		Beth Quinlan – B&V
Teresa Rasmussen – U.S. Geological Survey		Justina Gonzalez – B&V
Katie Handley – GBA		
David Dods – AECOM		

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**Agenda Objectives**  
 Evaluate handouts for sample project scoring and estimating the effectiveness of projects  
 Identify SMP water quality preferred direction  
 Discuss potential challenges and opportunities in implementing watershed-based approach

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**Handouts:**      Agenda  
                          Sample Project Scoring – DRAFT  
                          Estimating the Effectiveness of Projects – DRAFT

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**Notes**

**Introduction / Update of Implementation Status / 5<sup>th</sup> Meeting Goals**

- Andrew of B&V welcomed attendees to the fifth meeting of the water quality sub-committee. He provided a quick update of SMP strategic plan implementation to date.
  - **SMP Strategic Plan Implementation Status:** The system management sub-committee has finalized initial strategy discussions and has identified a preferred direction. This water quality sub-committee will be providing final consensus on strategy discussions as well. On Wednesday, August 30<sup>th</sup>, the funding sub-committee will have its kick-off meeting. There are many key issues they will be looking at and consultants will also present questions that the other sub-committees have noted on funding.

- Andrew outlined the agenda and goals of the fifth water quality sub-committee meeting.
  - **Water Quality Sub-Committee 5<sup>th</sup> Meeting Goals:** The sub-committee has looked at case studies for water quality programs across the nation and has considered goals and project types for the SMP. July's meeting centered on project prioritization and potential factors to measure success of water quality improvements. During the fifth meeting, the sub-committee will conclude discussions on project prioritization. Consultants will also ask the sub-committee to provide feedback on challenges and opportunities in implementing water quality initiatives under the watershed-based approach.

#### Review of Feedback from 4<sup>th</sup> Water Quality Sub-Committee Meeting

- Consultants quickly highlighted the feedback received from the July meeting. At the past meeting, the sub-committee spent a good deal of time confirming water quality top issues, goals, and project types. Members evaluated draft measures of success and project scoring sheets with key comments noted in the meeting summary.

#### Sample Project Scoring Sheet

- Beth Quinlan of B&V then guided a discussion on the sample project scoring sheet so that the sub-committee could confirm areas of consensus and potential revision. A copy of the scoring sheet is provided with the following key points summarized on each category:
  - **Alignment with Watershed Goals:** The sub-committee is assuming that goals for each watershed will be identified in the watershed plans. Such goals are unknown at this time, but the sub-committee can generally indicate the importance of solutions that address fundamental objectives. Sub-committee members agreed on using the category for SMP prioritization.
  - **Effectiveness in Water Quality Improvement and/or Preservation:** This category essentially assesses what a project will provide in terms of improving the water quality. For instance, this category may consider the amount of pollutant loading that is projected to be reduced, etc. Sub-committee members agreed on using the category
  - **Logistical Issues:** The category of logistical issues considers the ease of implementation, operation, and maintenance. Logistical factors were discussed in previous meetings and could include public acceptance, permitting, constructability, negative impacts, maintenance, and ownership. Members agreed on using the category and provided the following additional comments:
    - Ownership may need to include the logistical issues of land acquisition or easements if part of a project.
    - Ownership should be more clearly defined. It could be a consideration of who owns the project at the end but also ownership in terms of acquiring land say from private entities.
    - Maintenance is especially important because projects fail if that is not sufficiently established.
  - **Additional Benefits:** This category provides credit for what may be non-water quality benefits. The first three categories encompass traditional prioritization and this category can be thought of as bonus points. This category would give a measure of weight, for example, to innovative solutions that may not receive as many points under the first three categories. Members agreed on using the category and provided the following additional comments:
    - Under factors, the inclusion of components that also address flooding and/or asset management goals may be redundant depending on funding decisions yet to be made.

- Sub-committee members had the following general comments on the sample project scoring sheet:
  - The sheet is a clean and simple summary that identifies a direction for the water quality component of the SMP.
  - The sample project scoring sheet captures everything that has been noted in this group. The next step is to do the watershed plans so as to further define what areas to look at and what objectives to accomplish.
  - Watershed plans may demonstrate that there are only a few ways to address some of the issues. Prioritization will likely continue to evolve and be an iterative process.
  - An integrated approach should be included under alignment with watershed goals. Integrated planning is gaining a lot of traction nation-wide. Wastewater entities in County watersheds have made major investments in water quality over the last 30 years. They are looking at where to make sound investments at non-point sources, particularly if the solution has a higher cost to benefit ratio. The SMP should look at ways to join with such efforts.
  
- Consultants then asked sub-committee members to rank the project scoring sheet categories based on percentage values. Results of such ranking are:
  - 40%     Alignment with watershed goals**
  - 30%     Effectiveness in water quality improvement and/or preservation**
  - 20%     Logistical issues**
  - 10%     Additional benefits**

### Estimating Project Effectiveness

- Beth then led the sub-committee through a discussion on estimating project effectiveness. She first provided a list with examples of **water quality improvements** which consisted of:
  - Reduce non-point source pollution
  - Reduce sedimentation and erosion
  - Improve habitat
  - Preserve high quality waters
  
- On the type of water quality improvement, sub-committee members decided on the following revision:
  - Section two with “reduce sedimentation and erosion” should be more specific. The improvement should be called “**reduce sediment loading**” which implies the inclusion of associated nutrients, etc. Re-naming the category as such means that it would include projects like stream restoration and hydro-modification, but would also include lake projects that reduce sediment.
  
- The second part of the discussion on project effectiveness looked at potential **methods** to estimate effectiveness. The methods are essentially a means to score water quality solutions. A copy of the project effectiveness sheet is provided with the following key points summarized on each method:
  - **Water Quality Model:** A number of water quality models can assess reductions of non-point source pollution. Examples such as P8 or SLAMM are mid-range models that are not difficult to run and would not require significant modeling experience. It would be particularly beneficial if proposed projects consider reductions tied to a TMDL, either as an estimate in lbs/day or a percent reduction.
  - **Sediment Curves:** Researchers at Kansas State University have taken sediment curves that were developed for the Chesapeake Bay and have modified them for Kansas conditions. The curves are not tailored specifically to Johnson County but could be a method to estimate upstream water

quality sediment improvements. Such an approach would involve significant generalizations but a methodology has been established and evaluated.

- **Change in Benthic Macroinvertebrate Composition:** A change in macroinvertebrate composition, such as an increase in pollution sensitive species, could be a means to estimate habitat improvements. Sub-committee members noted that there are many other methods that could be used as well like native plant restoration or rip rap removal. Projects that are geared towards habitat improvement should also be evaluated on the extent of area to be impacted. Existing case studies can provide further guidance on what could be expected with habitat improvement solutions.
  - **Calculation of Area Protected:** A potential method to estimate the effectiveness of preservation could be to calculate the area protected relative to watershed goals. It has been assumed that high quality waters will be identified in the watershed plans. This method will need to consider not just the stream reach but surroundings areas that may be conserved. There may need to be a separate consideration for upland preservation.
- Sub-committee members confirmed agreement on the categories for water quality improvement and potential methods to estimate effectiveness. JC SMP noted that the program is just getting started in the area of water quality and so it is expected that modifications will continue to occur.

#### **Example Comparison of Project Scoring**

- Consultants then provided the sub-committee with two example projects to score and compare qualitatively. The purpose of which was to work through the logic in scoring and weighting. The projects were a) installation of pervious pavement in a large, commercial lot, and b) retrofit of an existing detention basin to increase the water quality pool. In comparing the two projects, members had the following comments:
  - A detention basin would get a higher score for sediment and nutrient removal. Consequently, the detention basin may have a high score on alignment with watershed goals whereas the pervious pavement may have a medium score.
  - In terms of public acceptance, there may be more issues with a detention basin on things such as mosquitos, wildlife, dangers to children, and algae.
  - Residents may be more accepting of pervious pavement if there is a public education component.
  - Ownership would play a key role in project promotion. Generally, a city would not want to retrofit something that doesn't belong to them or put in pervious pavement on a private lot. But there could be public-private partnerships, for instance, with home-owner's associations.
  - If the SMP is looking at realistic reductions of TMDLs, they may not want to fund little projects here and there. The watershed scale of TMDLs will likely require a larger approach in order to see impacts.
  - As for post-construction monitoring, the SMP will be monitoring sites in the watersheds as part of TMDL requirements and temporary monitoring. But for prioritization purposes, the program will rely in large part on data already collected and on existing research rather than directly invest in BMP monitoring.
  - Project comparison further demonstrates how the category "alignment with watershed goals" is the most crucial category. It is one thing to compare two different BMPs and another to compare different project types such as a BMP versus preservation. The consideration, though, of how the project aligns with watershed objectives helps normalize a comparison.

- Project prioritization should also allow for some minimum standard of what is considered an effective solution. The system should automatically kick out poor projects so that a situation does not arise where low projects are the only ones competing and receiving funding.

## **Challenges and Opportunities**

- Lastly, consultants asked the sub-committee to identify potential challenges and opportunities in implementing the water quality aspect of the watershed-based framework. Members had the following comments.
  - **Challenges**
    - A big issue will be the scope of proposed projects. Small projects will not accomplish much amongst the larger watershed framework. At the same time, even though larger projects will have a greater impact they will be more of a challenge logistically. It will be difficult to gage the in between of projects that are effective and still realistic to coordinate/implement.
    - Other than preservation, water quality objectives should be incorporated with the other elements of the SMP, i.e., flooding and system management. The concern is that water quality will not be given enough consideration.
    - There will be challenges in having an accurate or fair scoring system. Scoring will involve many factors and will be based on estimates. The program should allow flexibility for adjustments in categories, rankings, etc.
    - Highly developed areas do not have sufficient land to do large water quality projects. Funding will go to those that are willing to do the work so there may be a lot of small, retrofits in those areas.
    - Another concern is that funds will be set aside for water quality and then not used. Communities in the County also don't want to see funds divided up so much that projects are not effective.
  - **Opportunities**
    - Under the watershed approach, there will be great opportunities for integrated projects. The direction put forth so far by the sub-committee puts the program in alignment with integrated planning.
    - Funding for water quality can act as an incentive for establishing partnerships with entities like Parks Departments.
    - Having watershed organizations throughout the County can help in marketing water quality initiatives and in making solutions more palatable to the community.

## **Closing / Next Steps**

- The meeting closed with JC SMP and participants confirming that the sub-committee had provided sufficient direction for the water quality component of the SMP. The water quality sub-committee has concluded their meetings but members are more than welcome to participate in later initiatives.
- Consultants called for final questions or comments. Consultants reminded the sub-committee that a pilot watershed will begin once all sub-committee activities are completed early of next year. The County is now looking to begin an asset management initiative which will later be followed by watershed plans once the organizations are established.
- JC SMP and consultants closed by thanking participants for their valuable role in the strategic plan implementation and for the significant amount of progress they provided.

## Sample Project Scoring Sheet - **DRAFT**

Scoring Categories	Rationale	Scoring Range	Potential Factors
Alignment with Watershed Goals	All of the plans reviewed have alignment with watershed goals as a primary factor in selecting projects	Low to high	Goals will be defined in the watershed plans.  High score: project addresses priority parameters in TMDL reaches or protects high quality areas.
Effectiveness in Water Quality Improvement and/or Preservation	This is a measure of the effectiveness of the project. It is reasonable that different factors could be used for different types of projects	Numeric	See other table for project types and potential factors. Most projects will require some type of modeling to estimate the project's impact
Logistical Issues	This is a measure of the ease or difficulty of implementation, operation and maintenance	Low to high	Factors could include: <ul style="list-style-type: none"> <li>• public acceptance</li> <li>• permitting issues</li> <li>• constructability issues</li> <li>• potential negative impacts</li> <li>• maintenance</li> <li>• ownership</li> </ul>
Additional Benefits	Credit could be given for additional (non-water quality) benefits	Low to high	Factors could include: <ul style="list-style-type: none"> <li>• Educational component</li> <li>• Innovative Solution</li> <li>• Suitable for alternative funding</li> <li>• Components that also address flooding and/or asset management goals</li> </ul>

## Estimating the Effectiveness of Projects - **DRAFT**

Type of Water Quality Improvement	General Project Description	Examples	Potential Factors (not all factors would be included)	Methods
Reduce Non-Point Source pollution	Structural BMPs to settle and/or infiltrate particulates	<ul style="list-style-type: none"> <li>• Detention basin</li> <li>• Reduce impervious area</li> <li>• Infiltration basins</li> </ul>	<ul style="list-style-type: none"> <li>• lbs/day or % reduction of TP, TN, TSS, etc.</li> <li>• removal from 303(d) list</li> </ul>	<p>Water Quality model such as P8, SLAMM, MapShed</p> <p>Results of case studies</p>
	Non-structural BMPs to reduce loading of pollutants	<ul style="list-style-type: none"> <li>• Street sweeping</li> <li>• Leaf removal programs</li> </ul>		
Reduce sedimentation and erosion to reduce stream loading	Streambank Restoration	<ul style="list-style-type: none"> <li>• Streambank restoration</li> </ul>	<ul style="list-style-type: none"> <li>• amount of sediment, TP, TN prevented from entering streams</li> <li>• area restored</li> </ul>	Sediment curves (Chesapeake Bay program modified by Kansas State)
Improve Habitat	Improve habitat (temperature, dissolved oxygen, substrate, flow) to improve biological community	<ul style="list-style-type: none"> <li>• Riparian Corridor restoration</li> <li>• Hydro-modification</li> <li>• Lake dredging</li> </ul>	<ul style="list-style-type: none"> <li>• movement toward more natural stream morphology</li> </ul>	Width and length (linear connectivity) of corridor restoration as well as vegetative diversity
Protect high quality waters	Preservation	<ul style="list-style-type: none"> <li>• Moderate to high quality wetlands (regional)</li> <li>• Vegetative buffers and setbacks</li> <li>• Purchase development rights</li> </ul>	<ul style="list-style-type: none"> <li>• Amount/area protected</li> </ul>	Calculate area protected relative to goals