



Meeting Notes

Meeting Date: June 14, 2017 **Time:** 9:00 - 11:00 am
Meeting Location: Johnson County Transit Facility, 1701 W Old Hwy 56, Olathe, KS 66061

Attendees:

| | | |
|---|------------------|--------------------------------|
| Watershed-Based Organization Sub-Committee | JC SMP | Consultant Team |
| Paula Swatch – City of Westwood Hills | Lee Kellenberger | Patti Banks – Vireo |
| Chet Belcher – City of Olathe | Heather Schmidt | Andrew Smith – B&V |
| Lauren Garwood – City of Overland Park | Sarah Smith | Pablo Gonzalez - Quesada – B&V |
| Cynthia Moeller-Krass – City of Shawnee | | Justina Gonzalez – B&V |
| Kevin Bruemmer – City of Merriam | | |
| Tom Jacobs – City of Lenexa | | |
| Matt Kapfer – City of Olathe | | |
| Charles McAcllister – JC Wastewater | | |
| Brian Kelly – USGS | | |
| John Denlinger – HDR | | |
| Beth Fry – GBA | | |
| John Parker – Burns and McDonnell | | |
| Jessica Veach – CDM | | |
| Dan Miller – Lamp Rynearson & Associates | | |

Agenda Objectives

Discuss the baseline level of service for the watershed-based flood damage reduction program
 Discuss the factors most important for deciding capital project prioritization

Handouts: Agenda
 JC SMP Flood Problem Rating Table

Notes

Introduction / Update of Implementation Status / 2nd Meeting Goals

- Andrew of B&V welcomed attendees to the second meeting of the flood damage reduction sub-committee. He provided a quick update of SMP strategic plan implementation to date.
 - **Strategic Plan Implementation Progress:** The watershed-based organization sub-committee has met for a total of four initial meetings. One of their first exercises was to separate the County amongst delineated watersheds. The sub-committee drafted a total of six watershed groupings based on similar characteristics and the need to balance city management expectations. The sub-committee also drafted a structural framework for the County watershed-based organizations. The flood damage reduction sub-committee is one of three sub-committees that are meeting to help fill

in further details for that framework. Currently, the watershed-based organization sub-committee is on hiatus and will likely reconvene in October to finalize paths forward. Later in the process, a pilot watershed organization will begin implementing the structure, goals, and prioritizations prepared by the sub-committees.

- **Flood Damage Reduction Sub-Committee 1st Meeting Review:** At the previous meeting, consultants noted the goals of the flood damage reduction sub-committee and the anticipated process. The sub-committee was then divided into two smaller groups for discussions on what flood damage reduction issues still need to be addressed by the SMP, how a watershed-based approach might impact flood damage reduction, and what issues should have top priority in the SMP. The second meeting will further build on those initial discussions.
- Consultants outlined the agenda and goals of the second flood damage reduction meeting.
 - **Flood Damage Reduction Sub-Committee 2nd Meeting Goals:** During the second meeting, the sub-committee will discuss the baseline level of service for the watershed-based flood damage reduction program along with the factors most important for deciding capital project prioritization.
 - Andrew noted that the sub-committee is in the brainstorming phase and that JC SMP and consultants appreciate member efforts at having an open discussion so that multiple opinions can be heard.
- Consultants called for possible comments or questions on the strategic plan implementation.
 - Consultants highlighted an updated slide of the list of the cities in each watershed grouping along with their corresponding percentage of land area. Modified watershed names and values are provided below.

| Cities in the 6 Watershed Groupings | | | | | | | | | | | |
|--|------|-----------------------|------|-------------------------|------|--------------------------------|------|---------------------------|-----|-------------------------|------|
| NE Johnson County | | Indian Creek | | Upper Blue River | | Marais Des Cygnes River | | Captain/Kill Creek | | Cedar/Mill Creek | |
| Fairway | 4% | Johnson County Uninc. | 0.0% | Leawood | 7% | Edgerton | 8% | Gardner | 7% | Bonner Springs | 0.3% |
| Lenexa | 4% | Leawood | 14% | Johnson County Uninc. | 50% | Gardner | 5% | De Soto | 7% | De Soto | 4% |
| Merriam | 15% | Lenexa | 4% | Olathe | 6% | Johnson County Uninc. | 79% | Johnson County Uninc. | 86% | Gardner | 0.1% |
| Mission | 9% | Olathe | 21% | Overland Park | 36% | Olathe | 0.3% | | | Johnson County Uninc. | 15% |
| Mission Hills | 7% | Overland Park | 57% | Spring Hill | 0.8% | Spring Hill | 8% | | | Lake Quivira | 0.9% |
| Mission Woods | 0.3% | Prairie Village | 4% | | | | | | | Lenexa | 22% |
| Overland Park | 26% | | | | | | | | | Olathe | 31% |
| Prairie Village | 11% | | | | | | | | | Shawnee | 27% |
| Roeland Park | 6% | | | | | | | | | | |
| Shawnee | 17% | | | | | | | | | | |
| Westwood | 1.4% | | | | | | | | | | |
| Westwood Hills | 0.2% | | | | | | | | | | |

Note: Names and values have been updated from 1st meeting.

Flood Damage Reduction Baseline Level of Service

- Consultants led the sub-committee through a discussion of what should be the baseline level of service for the watershed-based flood damage reduction program. The current level of service for the flood damage reduction program assesses the impact of the 100 yr flood. Consultants asked if that is still the right level of service or if the program should look beyond that. Individual sub-committee member responses are summarized as such:
 - The program should consider having varying levels of service. The extent of the level of service would depend on the needs of the basin being assessed. Some areas are newly developed and adequate storm work has been done more recently.
 - Having varying levels of service would have potential benefits in that certain areas have more problems than others and require a greater portion of limited resources. But ideally the program would not make varying levels of service too complicated.
 - There are situations in which some improvement is better than no improvement. The goal of the program has been to fix an area once and according to a set standard. But having flexibility could allow for greater improvements in the watershed overall.
 - Potential projects could be ranked based on some factor of improvement. The factor would have to be well defined so that the assessed benefit can be normalized across watersheds.
 - Having a factor of improvement goes back to the traditional way of looking at cost to benefit ratios. The benefit may not reach an absolute target but there is still a benefit to cost that can be evaluated.
 - The program should also consider the tools being used to assess flood damage issues. For example, FEMA flood maps don't change as often to account for the impacts of land use or climate change. We are experiencing a changing environment and are observing flashier floods for a variety of reasons. The program should periodically assess changes based on measured flow or observed flooding.
 - At present, the SMP does take into account land use changes but has not taken into account climate change. One of the outcomes of the sub-committee could be the suggestion to update modeling based on new hydrology data.
- Consultants then asked the sub-committee if the County should take a role in promoting **adoption of the latest NOAA Atlas 14 Precipitation-Frequency Estimates**. Some areas in the County are looking at significant precipitation increases (~25%). Municipalities have not yet adopted the updated Atlas but consultants asked if that is an issue that should be pursued. Sub-committee member responses noted are:
 - The adoption of the updated Atlas should be considered. Incorporating the new data will have to be done some time and it would be wise to design to the new standard rather than wait say ten years to do so.
 - The program could encourage city adoption of the updated Atlas by providing project benefit points.
 - From a design and management perspective, dealing with moving targets of flows is tough. It is difficult to tie into older lines that were designed for lower flows. Also, we would want to be careful to not further increase confusion to residents on whether or not they are in the floodplain. In one study they may be and in another study they may not. It is difficult to get communication out to the public on flooding issues.
 - In regards to public communication, a better way to talk about flooding to residents is to state that there is a 1% chance of this happening every year instead of saying the 100 yr flood. There is a lot of public misunderstanding when using the phrase the 100 yr flood.
- Lee of JC SMP asked the sub-committee if the program should focus on **main channel improvement projects** and allow cities to work on their local drainage issues on their own. Since downstream cities are affected by the practices of upstream cities, main channel projects would affect more people and have a greater overall impact. Lee asked if the future watershed studies should have two separate project lists for

main channels and individual city projects. The SMP could then do graduated funding with main channel projects receiving higher funding. Lee also asked if the program should differentiate between man-made systems vs. natural systems. Sub-committee member responses are summarized as such:

- Residents generally don't care if the flooding is coming from an undersized engineered system or a stream. But there is a difference in liability in that a facility can be sued for having an undersized system whereas a stream cannot.
 - Main channel projects are significant capital investments that often times are contingent upon receiving alternative funding, such as from federal sources.
 - The objectives of main channel projects should be considered amongst the entirety of the basin. Projects should be assessed as to if the objective is to attenuate flows or increase recharge. There should be a balance that can be difficult to determine.
 - The program does currently fund capacity projects as well as attenuation. Regional detention, however, is a more difficult strategy in highly urbanized areas with little space to do that.
- Andrew questioned the sub-committee as to if there is sufficient value in performing **unsteady modeling** of the stormwater system. Nationally, there is an increasing trend of entities using unsteady models to assess the impacts of problems they didn't fully understand. Sub-committee member responses noted are:
 - From a technical standpoint, there would be value in seeing the full impact from unsteady modeling. However, from a management standpoint the potential pitfall is that it would reduce the number of consultants that would have the capacity to perform the work.
 - It would be beneficial to see if models are too conservative. Also, a model that takes into account attenuation would be good to have.
 - Existing conditions should be further sharpened if possible. But there have also been post reviews of areas that had the 100 yr event and current models were pretty accurate.
- Lee polled the sub-committee as to if the program should offer flood damage reduction strategies of **floodproofing and/or voluntary flood prone buyout**. A majority of members agreed to the inclusion of voluntary flood prone buyout. Members noted the following on floodproofing:
 - It's difficult to understand the rationale of floodproofing. What you floodproof today may still have significant problems later on down the road.
 - Floodproofing may give a false sense of security. Voluntary buyout on the other hand leads to a stream corridor approach that addresses other goals of the program such as water quality.
 - A large number of flood prone buyouts are piecemeal in that they are a result of a builder's poor design for the area. Floodproofing should be available as an option, but ultimately whoever is managing the proposed solutions needs to make sure the floodproofing is a logical option.
 - FEMA provides guidance on what constitutes floodproofing. Their requirements to receive funding, though, are high so there would be merit in having funding at the local level.

Update of Flood Damage Reduction Factors for Capital Project Prioritization

- Consultants provided the sub-committee with a copy of the JC SMP Flood Problem Rating Table as attached. Consultants asked what modifications should be done to the rating table, particularly in consideration of the watershed-based approach. Sub-committee member comments summarized are:
 - The prioritization for street flooding needs to be increased. Street flooding is the most hazardous in regards to loss of life versus home flooding. At the same time, the prioritization of home flooding should not be downplayed since homes are such a large personal investment.
 - The rating table has been and still is an excellent tool for the program. There should be a multiplier value for the number of streets that are flooded. For example, if four streets are flooded in an area then points should count four times versus the current system which counts it once.
 - Street flooding does need to be updated since counting streets only once would inhibit the program from focusing on the watershed approach. Also, under the watershed approach the table should consider prioritization for regionally important streets.

- Single voluntary buyout should be included in the rating table.
 - Factors 13 and 14 consider the inclusion of other cities. For the watershed approach, the table could be modified to consider multiple downstream benefits instead.
 - Factors that consider flooding depth and velocity could be added to the table. It would be good to weigh the impact of deeper water in a street crossing.
 - Depth would be an easier factor to measure. Values for velocity may be more difficult to get though some studies may have preliminary information for crossings.
 - Erosion factors that consider structural issues should still be included in the rating table. Other erosion impacts should also be included in the water quality prioritization.
 - Erosion control is generally costly to fix but the points available in the rating table are low. The table tends to give greater points for problems that are also cheaper to fix.
 - Under the current rating table, the program has been able to prioritize low hanging fruit. Now is the time to shift priorities and change the weighting to focus on the next level of challenges.
- Lee noted that the program should define a **horizon** at which flood damage reduction objectives are met. There should be a measurable goal that is the threshold of County involvement. Member responses are summarized as such:
 - It may not be possible to define an “end” goal at this time but the new watershed plans should guide the program to that.
 - The program hasn’t historically logged and communicated what has been done over the years. The cities would be happy to provide further data on what has already been accomplished which may help in evaluating a goal.
 - Risk maps for the County should be developed that consider flooding depth so as to better define the extent of the problem. There is a significant disconnect between the Zone AE limits on FEMA maps and areas of real risk.

Closing / Next Steps:

- Meeting closed with consultants calling for any final questions or comments.
 - ***Q: The watershed plans have been frequently referenced during discussions. What will be included in the plans?***
 - The County plans to fund the drafting of watershed plans. The plans will look at gathering more flooding and water quality information and will identify watershed scale opportunities for projects addressing these issues. System management will likely be done in a separate effort. The plans will be the first initiative of the watershed-based organizations and will be integral in their formation and implementation. (Lee, JC SMP)
 - Each watershed-based organization will be unique in their needs and the plans will help the organizations with prioritization in the watershed as well. (Andrew, B&V)
- **The sub-committee will not meet in July.** The next meeting is scheduled for August 9th at the same time, same place.
- SMP and consultants thanked the participants for their time and valuable input in guiding new paths forward.