



# Stormwater Management Advisory Council Meeting Agenda

Public Works Building  
1800 W. Old 56 Highway – Olathe

**February 1, 2019**  
**7:30 am**

## ACTION ITEMS

1. Roll Call
2. Acceptance of June 22, 2018 meeting summary (pages 2-5)
3. City of Merriam and Lake Quivira OPTI Retrofit Funding Request (Page 6)

## INFORMATIONAL ITEMS

4. Draft 2020 Budget and PEFF List Page (7-8)
  - PES Moratorium
5. Strategic Plan Implementation Update (Page 9)
  - SAMP Presentation
  - Watershed Master Planning Update
  - SMP Policies and Procedure Sub-Committee
6. NPDES Update (Page 10)
  - Annual report
  - TMDL Monitoring RFQ
7. SMP staffing needs – Page (11)
8. Adjourn

*Breakfast will be served*

## **Agenda Item 1: June 22, 2018 SMAC Meeting Summary**

Mr. Rob Beilfuss opened the meeting at 7:30 am by welcoming everyone.

**Agenda Item 1: Roll Call** Roll call was taken by Mr. Rob Beilfuss.

<p><b><u>SMAC Representatives Present: (18)</u></b>  Trey Whitaker (Edgerton)  Bill Stogsdill (Fairway)  Tim McEldowney (Gardner)  Bill Cole (Lake Quivira)  David Ley (Leawood)  Tom Jacobs (Lenexa)  Kevin Bruemmer (Merriam)  John Belger (Mission)</p>	Jennifer Lee (Mission Hills) Rob Beilfuss (Olathe) Lorraine Basalo (Overland Park) Jose Leon (Roeland Park) Cynthia Moeller-Krass (Shawnee) Jim Hendershot (Spring Hill) John Sullivan (Westwood/Mission Woods) Michael Fox (Westwood Hills) Brian Pietig (Johnson County)
<p><b><u>Others Present: (38)</u></b>  Jason Hrabec (Jo.Co. AIMS)  Ron Shaffer (Jo.Co Commissioner)  Lee Kellenberger (Jo.Co. Stormwater)  Kent Lage (Jo.Co. Stormwater)  Sarah Smith (Jo.Co. Stormwater)  Heather Schmidt (Jo.Co. Stormwater)  Mike Piller (Jo.Co. Wastewater)  Paula Schwach (Westwood Hills)  Brad Schleeter (Affinis)  Kait Hanson (McClure)  Laura Tyson (McClure)  Tom Morey (StanTec)  Pablo Gonzalez (Black and Veatch)  Tim Green (Lenexa)  John Denlinger (HDR)  Stacy Gallick (TREKK Design Group)  Bryan Dyer (Merriam)  Leslie Barnt (GBA)  Tom Jacobs (MARC)</p>	Andrew Sauer (Burns and McDonnell) Doug Whitacre (Shawnee) Jamie Cole (HDR) Laura Irwin (Trans Systems) Cliff Speegle (Affinis) Matt Scott (CDM Smith) Dan Ryan (HNTB) Teresa Rasmussen (USGS) David Nolte (BHC Rhodes) Chad Johnson (Olsson) Curt Talcott (RIC) Brent Johnson (Olsson Assoc.) Trent Stober (HDR) Andrew Smith (Black & Veatch) Jason Gardner (Burns & McDonnell) Victor Hlas (OPTI) Micha Stauss (OPTI) Lauren Garwood (Overland Park) Ybairy K. Duin ( Overland Park)
<p><b><u>Cities Not Represented: (3)</u></b>  Bonner Springs  De Soto  Prairie Village</p>	

## **Agenda Item 2: Acceptance of March 2, 2018 Meeting Summary**

Mr. Rob Beilfuss asked for comments on the March 2, 2018 SMAC meeting summary.

*Motion to accept the March 2, 2018 SMAC meeting summary was seconded and passed.*

**Agenda Item 3: 2018 USGS Streamflow Gauging Agreement**

Mr. Kellenberger gave an overview of the stream gauges currently in operation in Johnson County. The US. Geological survey operates these gauges on our behalf. The total funding request for 2018 is \$83,240.

*A motion was made to approve the 2018 USGS Streamflow Gauging Agreement, motion was seconded and approved.*

**Agenda Item 4: 2019 SMP Proposed Expenditures**

Mr. Kellenberger presented the 2019 SMP Proposed Expenditures.

**SECTION 1:  
2019 EXPENDITURES SUMMARY**

2019 Estimated Revenue	\$ 15,809,892	
Previous years' unspent funds	\$ 2,653,609	
<b>Total Funds Available*</b>	<b>\$ 18,463,501</b>	
<small>* \$750,000 Operating Reserves Withheld</small>		
		% of budget
<b>ADMINISTRATIVE SERVICES**</b>		<b>\$ 517,942 3%</b>
Personnel Services (2.75 FTEs)	\$ 351,320	
County Support Services	\$ 142,622	
Operating Expenses	\$ 24,000	
<small>**These are rounded amounts from the County's 2018 budget document</small>		
<b>SMP PLANNING &amp; SUPPORT PROJECTS (target 20%)</b>		<b>\$ 3,775,000 21%</b>
Studies	\$ 2,500,000	
Engineering Support	\$ 500,000	
Regional and R&D Projects	\$ 300,000	
Stormwatch System Maintenance	\$ 325,000	
USGS Streamflow Gauges	\$ 150,000	
<b>SYSTEM MANAGEMENT PROJECTS (target 30%)</b>		<b>\$ 750,000 4%</b>
System Inventory and Condition Assessment	\$ 750,000	
System Replacement Projects	\$ -	
<b>WATERSHED IMPROVEMENT PROJECTS (target 50%)</b>		<b>\$ 13,252,388 72%</b>
NPDES Phase II Support	\$ 675,000	
Water Quality Improvement and Preservation	\$ -	
Flood Damage Reduction	\$ 12,577,388	
<b>ADMINISTRATIVE SERVICES</b>	<b>\$ 517,942</b>	<b>3%</b>
<b>PLANNING &amp; SUPPORT PROJECTS</b>	<b>\$ 3,775,000</b>	<b>21%</b>
<b>SYSTEM MANAGEMENT PROJECTS</b>	<b>\$ 750,000</b>	<b>4%</b>
<b>WATERSHED IMPROVEMENT PROJECTS</b>	<b>\$ 13,252,388</b>	<b>72%</b>
<b>Total Budgeted Expenditures</b>	<b>\$ 18,295,330</b>	

**2019 Un-obligated Fund Balance \$ 168,171**

*A motion was made to approve the 2019 SMP Proposed Expenditures, motion was seconded and approved.*

### **Agenda Item 5: WQ Monitoring for NPDES Permits 2019 -2024**

Mrs. Schmidt gave an overview of the new monitoring approach for our next permit cycle. The SMP will continue to support water quality monitoring across the County on behalf of the cities to meet regulatory requirements. The new water quality monitoring approach focuses on entire watersheds, rather than municipal boundaries, in order to align with the watershed management goals of the Strategic Plan.

Monitoring Objectives:

- Evaluate MS4 discharge impacts to the receiving waters
- Investigate relative contribution of sources of specific pollutants causing designated use impairment, including nutrients, bacteria and sediment
- Gather data to inform program decisions and prioritization of future activities related to the protection of water quality.

The SMP will contract for these services for 1-2 years, with the option to pursue hiring staff once the level of effort is determined.

### **Agenda Item 6: OPTI Study Results**

Representatives from OPTI were on hand to share the results of a Research and Development project that the SMP funded in cooperation with the City of Lenexa. Four basins in the City of Lenexa were retrofitted with continuous monitoring and adaptive controls. The objectives of the study were to test the technology and hardware to see if the basins could provide increased flood control and water quality benefits.

Based on the success of the study, Mr. Kellenberger stated that he could see widespread implementation of this technology to enhance the performance of our existing infrastructure, and that the SMP would like to fund additional pilot projects in Johnson County. Mr. Kellenberger asked the group to think of the existing assets in their communities and contact him if they have potential retrofit sites.

### **Agenda Item 7: Strategic Plan Implementation Update**

Mr. Kellenberger gave an overview of the study session held with the BoCC on April 18, 2018. SMP staff along with representatives from SMAC presented the new program direction. It was well received by the Board so we have initiated the following activities in 2018:

- 1) Strategic Asset Management Plan: CDM Smith has been retained to complete the SAMP. This will be the foundational document for our new System Replacement Program.
- 2) Watershed Master Planning: A sub-committee has been formed to help SMP develop a scope of services for our watershed master plans. The objective of these plans is to give the new watershed organizations the information they need to address flooding, water quality, and system replacement at the watershed scale.
- 3) Policy and Procedures: A sub-committee will be formed to start updating SMP Policies and Procedures
- 4) Education Road Show: SMP staff have developed a brief presentation that they can present to your city councils to give them a “heads-up” on the major changes coming as a result of our strategic plan.

**Agenda Item 7: APWA 5600 and BMP Manual Update**

Mr. Kellenberger stated that the APWA water resources committee has been discussing the possibility of updating the regional stormwater design standards. At this time the committee is just looking for feedback on whether or not the SMAC is interested or would support such an update. The last major update to APWA 5600 was in 2003. Since then we have new rainfall data in NOAA Atlas 14. Other items that could be addressed include: climate change, multiple event hydrology, incorporation of the BMP manual. The feeling is that this update is beyond the scope of a volunteer based committee. Mr. Kellenberger stated that if there is enough support from the Johnson County communities, the SMP would consider funding the update on behalf of all the Johnson County communities.

### **Agenda Item 3**

## **City of Merriam and Lake Quivira OPTI Retrofit Funding Request**

At the June 22, 2018 SMAC meeting representatives from OPTI were on hand to present the results of the retrofits to four basins in the City of Lenexa. Based on the success of that project and the desire to gain more experience with this technology the SMP requested Cities submit additional proposals for funding consideration. To-date the SMP has received requests from Lake Quivira and the City of Merriam.

The SMP funded a feasibility study led by Burns and McDonnell to investigate and provide recommended designs for retrofitting a dry detention pond in the city of Merriam and a pre-sedimentation basin at Lake Quivira with the OPTI continuous monitoring and adaptive controls (CMAC) technology. CMAC is a cloud-based software that uses National Weather Service (NWS) forecast, a water level sensor, and an actuated valve to actively manage adaptive stormwater storage. The software actively makes decisions based on an algorithm that considers the probability of precipitation, the forecasted amount of precipitation, the estimated total runoff from the upcoming event, and the amount of available stormwater storage in the detention basin. Data gathered through these projects will provide useful information on the use of CMAC to improve the function of existing flood control and water quality structures.

### **Lake Quivira Pre-Sedimentation Basin Retrofit Project**

This study evaluates the feasibility of a retrofit to an existing pre-sedimentation basin outlet structure with Continuous Monitoring and Adaptive Control (CMAC) located upstream of the Lake Quivira. Implementation of CMAC at this site will extend the detention time in the basin further facilitating sediment deposition and potentially improving the water quality within Lake Quivira and reducing sediment load to the lake.

**SMP \$99,750**

**City of Lake Quivira \$33,205**

### **City of Merriam Dry Detention Retrofit Project**

This study evaluates the feasibility of a retrofit to an existing detention basin outlet structure with Continuous Monitoring and Adaptive Control (CMAC) located in the City of Merriam, Kansas (City). Use of the CMAC technology at this detention basin (designed to attenuate the 10- to the 100-year event) will increase functionality of the basin to retain smaller, more frequent storm events and provide water quality benefit. This project will also provide experience with partnering with a private company on stormwater projects.

**SMP \$94,125**

**City of Merriam \$31,375**

**Agenda Item 4**  
**2020 SMP DRAFT Budget**

**2020 DRAFT Expenditures Summary**

2020 Estimated Revenue		\$ 16,200,000	
Previous years' unspent funds		\$ 1,500,000	
<b>Total Funds Available*</b>		<b>\$ 17,700,000</b>	
* \$750,000 Operating Reserves Withheld			
<b>ADMINISTRATIVE SERVICES**</b>		<b>\$ 616,622</b>	
Personnel Services (3.75 FTEs)	\$ 450,000		
County Support Services	\$ 142,622		
Operating Expenses	\$ 24,000		
**These are rounded amounts from the County's 2018 budget document			
<b>Funds Available for Capital Projects</b>		<b>\$ 17,083,378</b>	
			% of budget
<b>SMP PLANNING &amp; SUPPORT PROJECTS (target 20%)</b>		<b>\$ 2,775,000</b>	<b>16%</b>
Studies	\$ 1,500,000		
Engineering Support	\$ 500,000		
Regional and R&D Projects	\$ 300,000		
Stormwatch System Maintenance	\$ 325,000		
USGS Streamflow Gauges	\$ 150,000		
<b>SYSTEM MANAGEMENT PROJECTS (target 30%)</b>		<b>\$ 3,750,000</b>	<b>22%</b>
System Inventory and Condition Assessment	\$ 750,000		
System Replacement Projects	\$ 3,000,000		
<b>WATERSHED IMPROVEMENT PROJECTS (target 50%)</b>		<b>\$ 10,175,000</b>	<b>60%</b>
NPDES Phase II Support	\$ 675,000		
Water Quality Improvement and Preservation	\$ 500,000		
Flood Damage Reduction	\$ 9,000,000		
<b>ADMINISTRATIVE SERVICES</b>		<b>\$ 616,622</b>	
<b>PLANNING &amp; SUPPORT PROJECTS</b>		<b>\$ 2,775,000</b>	
<b>SYSTEM MANAGEMENT PROJECTS</b>		<b>\$ 3,750,000</b>	
<b>WATERSHED IMPROVEMENT PROJECTS</b>		<b>\$ 10,175,000</b>	
<b>Total Budgeted Expenditures</b>		<b>\$17,316,622</b>	
<b>2020 Un-obligated Fund Balance</b>		<b>\$ 383,378</b>	<b>2%</b>



**Johnson County Stormwater Management Program  
2020 **DRAFT** List of Projects Eligible for Future Funding**

Rank	Year Added	Cost Benefit Rating	City	Project Number	Location	Benefit Rating	Total Estimated Project Cost	City Share	SMP Share	Contingency	Total Project Authorization
(a)	2017		Olathe	BR 09 001	167th and Blackbob Stormwater Improvements	230	\$ 133,333	\$ 33,333	\$ 100,000	\$ 75,000	\$ 175,000
(b)	2018		Overland Park	IC 10 071	95th & Moody to 101st & Connell Stormwater Improvements, Phase 1	353	\$ 4,176,000	\$ 1,044,000	\$ 3,132,000	\$ 313,200	\$ 3,445,200
1	2019	5,611	Overland Park	BR 10 001	170th Terrace & Switzer Road Improvements	180	\$ 1,010,000	\$ 252,500	\$ 757,500	\$ 75,750	\$ 833,250
2	2007	6,495	Overland Park	IC 10 061	95th Street to 97th Street, East of Riley	495	\$ 3,215,000	\$ 803,750	\$ 2,411,250	\$ 241,125	\$ 2,652,375
3	2006	7,759	Overland Park	IC 10 059	99th Street to 101st Street, West of Metcalf	220	\$ 1,707,000	\$ 426,750	\$ 1,280,250	\$ 128,025	\$ 1,408,275
4	2013	8,025	Merriam	TC 20 037	Campbell Creek - Knox Ave. to Campbell Lane	130	\$ 1,043,300	\$ 260,825	\$ 782,475	\$ 78,248	\$ 860,723
5	2019	11,143	Olathe	IC 09 055	Briarwood Stormwater Improvements	190	\$ 2,117,198	\$ 529,300	\$ 1,587,899	\$ 158,790	\$ 1,746,688
6	2019	12,929	Prairie Village	BC 11 057	Brush Creek at 68th St and Mission Rd Stormwater Improvements	175	\$ 2,262,523	\$ 565,631	\$ 1,696,892	\$ 169,689	\$ 1,866,581
7	2011	13,262	Merriam	TC 20 034	Hocker Street, between Farley St. and Knox Ave.	170	\$ 2,254,500	\$ 563,625	\$ 1,690,875	\$ 169,088	\$ 1,859,963
8	2019	13,984	Shawnee	MC 21 073	67th & Cottonwood Dr Stormwater Improvements	215	\$ 3,006,518	\$ 751,630	\$ 2,254,889	\$ 225,489	\$ 2,480,377
10	2019	14,756	Leawood	IC 04 040	Stormwater Improvements North of I-435, Mission Farms to Lee Blvd	250	\$ 3,689,100	\$ 922,275	\$ 2,766,825	\$ 276,683	\$ 3,043,508
11	2018	16,201	Overland Park	IC 10 072	95th & Moody to 101st & Connell Stormwater Improvements, Phase 2	353	\$ 5,719,000	\$ 1,429,750	\$ 4,289,250	\$ 428,925	\$ 4,718,175
13	2018	17,958	Overland Park	IC 10 074	95th & Moody to 101st & Connell Stormwater Improvements, Phase 4	330	\$ 5,926,000	\$ 1,481,500	\$ 4,444,500	\$ 444,450	\$ 4,888,950
12	2019	18,000	Olathe	IC 09 057	Stage Coach and Sleepy Hollow Drive Stormwater Improvements	100	\$ 1,800,000	\$ 450,000	\$ 1,350,000	\$ 135,000	\$ 1,485,000
14	2007	18,964	Overland Park	IC 10 060	97th Street to 99th Street, West of Metcalf	193	\$ 3,660,000	\$ 915,000	\$ 2,745,000	\$ 274,500	\$ 3,019,500
15	2018	20,794	Overland Park	IC 10 073	95th & Moody to 101st & Connell Stormwater Improvements, Phase 3	330	\$ 6,862,000	\$ 1,715,500	\$ 5,146,500	\$ 514,650	\$ 5,661,150
16	2019	28,536	Overland Park	IC 10 075	Nall Hills Stormwater Improvements 97th St to 103rd St	233	\$ 6,649,000	\$ 1,662,250	\$ 4,986,750	\$ 498,675	\$ 5,485,425
17	2019	29,774	Olathe	IC 09 056	Indian Creek Jamestown to Arrowhead Stormwater Improvements	155	\$ 4,615,000	\$ 1,153,750	\$ 3,461,250	\$ 346,125	\$ 3,807,375
18	2017	30,771	Olathe	MC 09 020	South Ferrell Dr & West Virginia Ln Stormwater Improvements	210	\$ 6,461,940	\$ 1,615,485	\$ 4,846,455	\$ 484,646	\$ 5,331,101
19	2000	32,383	Overland Park	TM 10 007	122nd Terrace and Roe Stormwater Improvements	160	\$ 5,181,300	\$ 1,295,325	\$ 3,885,975	\$ 388,598	\$ 4,274,573
21	2017	33,245	Mission	RC 06 022	Rock Creek Channel Improvements from Nall to Roeland Drive	115	\$ 3,823,200	\$ 955,800	\$ 2,867,400	\$ 286,740	\$ 3,154,140
20	2011	32,572	Merriam	TC 20 033	South Quaker Creek, Slater & Hemlock Street	190	\$ 6,188,600	\$ 1,547,150	\$ 4,641,450	\$ 464,145	\$ 5,105,595
22	2019	62,935	Overland Park	IC 10 076	Nall Hills Stormwater Improvements, Walmer to Nall	278	\$ 17,496,000	\$ 4,374,000	\$ 13,122,000	\$ 1,312,200	\$ 14,434,200
23	2019	TBD	Olathe		Spruce Business Center Stormwater Improvements	TBD		\$ -	\$ -	\$ -	\$ -
<b>Totals</b>						<b>5,255</b>	<b>98,996,512</b>	<b>24,749,128</b>	<b>74,247,384</b>	<b>\$ 7,489,738</b>	<b>\$ 81,737,122</b>
<b>(a) This is a special request for additional funding for a 2018 Project.</b>											
<b>(b) This is a continuation project from 2019. Per SMP policies and procedures, the project must be funded by the city in 2020.</b>											
* Cities submitted revised cost estimates for 2020.											

**NO NEW PES's WILL BE ACCEPTED UNTIL PHASE I WATERSHED MASTERPLANS ARE COMPLETE**



## **Agenda Item 5 Strategic Plan Implementation Update**

### **Strategic Asset Management Plan (SAMP) Presentation**

The final SAMP is complete and was developed in collaboration with SMP Staff as well as a subcommittee comprised of County Staff, City representatives, and local engineering consultants. The SAMP is intended to serve as a foundational document for the SMP's new System Management Program. It represents an understanding of available data, SMP funding and priorities and stakeholder input.

The final document will be posted to our website soon:

<https://www.jocogov.org/dept/public-works/stormwater-management/about-smp/strategic-plan>

### **Watershed Master Planning Update**

The Watershed Master Planning Sub-committee met regularly in 2018 to help SMP staff determine the nature and scope of the Watershed Master Plans. The group landed on a phased approach to developing the master plans and reached a consensus on the types of analyses and detail to be included in Phase I. See handout for full Phase summaries.

The objective of Phase I is to develop watershed Master Plans that the newly created Watershed Organizations (W.O.s) can use to identify and evaluate the needs of their watershed, irrespective of municipal boundaries. The plans will contain enough detail for the Watershed Organizations to prioritize improvements to address flooding, water quality and system replacement, and the types of solutions that they should consider. However, the Phase I will stop short of developing detailed projects/solutions. The plans will also be adaptable. They should meet the near term needs of the watersheds today, but also be forward looking to meet the needs of the Watershed in the future.

Phase 1 will be contracted and funded entirely through the Stormwater Management Program's Terms & Supply Agreements.

### **SMP Policies and Procedure Sub-Committee**

The SMP Policies and Procedures Sub-committee will be convened in 2019. SMP staff will reach out to those interested in serving. This committee will run concurrently with the watershed master planning process and modify the existing policies and procedures to reflect the changes set forth in the Strategic Plan.

## Agenda Item 6 NPDES Update

### Annual Report and MS4 Permit renewal

Annual reports are due on February 28<sup>th</sup> to KDHE and are to be submitted on CD. Annual report templates were sent out to each city on Jan 16<sup>th</sup> with the information on the services the SMP provides for the cities. The reports are formatted a little differently this year and require a “Final Report” that evaluates the effectiveness of all MCMs for the permit term. We are currently operating on an extension of that permit term until the new permits are issued.

### TMDL Monitoring RFQ

A request for qualifications has been sent to SMP term and supply firms for providing water quality monitoring services for the next permit term. We are planning to implement a new watershed based approach to sampling water quality instead of collecting water quality samples on municipal boundaries as was the approach with the last permit term. Responses to the RFQ are due to Heather on Feb 22nd.

## Agenda Item 7 SMP Staffing Needs

The Johnson County SMP is currently staffed with 2.75 FTEs. This includes the following positions

- Urban Services Manager 0.25 FTE
- SMP Program Manager 1.0 FTE
- Stormwater Engineer 0.5 FTE
- Water Quality Specialist 1.0 FTE

Based on the expansion necessary to achieve the objectives set forth in the Strategic Plan the Johnson County SMP is proposing to add two new positions to the SMP in 2019. The additional capacity will allow the SMP to stay on track with its goal of full implementation of the strategic plan in 5 years.

### **Stormwater Engineer**

This position will serve as a project manager. The main focus will be on the flood damage reduction program.

Anticipated duties include:

- Project management
- Data manipulation and analysis
- Review project applications
- Serve on technical committees and boards
- Provide technical assistance to watershed organizations
- Oversight and management of watershed scale improvement projects

*The Johnson County SMP plans to advertise this position in February 2019 at:*

<https://www.jocogov.org/dept/human-resources/careers/career-opportunities>

### **Asset Manager**

This position will serve as an asset manager and oversee the new System Management Program

Anticipated duties include:

- Project Management
- Data manipulation and analysis
- Review project applications
- Serve on technical committees and boards
- Provide technical assistance to watershed organizations
- Administration and oversight of system replacement projects.

*Johnson County SMP plans to contract for these services utilizing our Terms and Supply Agreements in 2019. Once we determine the level of effort required, we will decide whether to hire staff or continue to contract for these services.*