

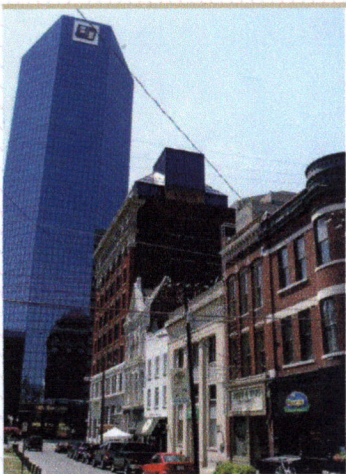


# Proposal for Professional Engineering Services »

RFP 57-2014

Municipal Separate Storm Sewer System (MS4)

Annual Program Management Services



October 13, 2014



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Aerial of Downtown Lexington



October 13, 2014

Purchasing Director  
Lexington-Fayette Urban County Government  
Room 338, Government Center  
200 East Main Street  
Lexington, KY 40507

**Attn.: Selection Committee**  
**RE: Tetra Tech Proposal (RFP 57-2014)**  
**Municipal Separate Storm Sewer System (MS4) Annual Program Management Services**

Dear Selection Committee Member:

The **Tetra Tech / Third Rock Consultants team** has been the MS4 Program Manager for LFUCG for the last 6 years, and the work described in this RFP is a continuation of the work that we have been doing since 2008. During this time, the Tetra Tech and LFUCG team have accomplished a track record of success as evidenced by the following:

- LFUCG is in compliance with all 40 MS4 performance standards in the Consent Decree
- LFUCG is in compliance with all 153 MS4 permit requirements, along with 167 measurable goals in the Stormwater Quality Management Program
- The Kentucky Division of Water (KDOW) inspected LFUCG's MS4 program in 2010 and 2012 and found no deficiencies.

Tetra Tech helped your staff build a solid foundation for the MS4 program that will ensure continued regulatory compliance and that will lead to long-term improvement in the water quality of Fayette County streams.

***We ask you to consider the following reasons for selecting the Tetra Tech team to continue as the MS4 Program Manager.***

**1 We have a proven record of performance.** As indicated above, with our team in place as the MS4 Program Manager, LFUCG is in compliance with all MS4 permit and Consent Decree requirements. We have been highly responsive, and our work has been of high quality, on schedule, and within budget. We have built a relationship of mutual trust and respect, which has allowed us to work as an extension of your staff. Furthermore, we have developed a cost-effective system of scheduling, reporting, and document management that saves your staff time and money.

**2 We understand what EPA and the KDOW expect from LFUCG.** Because of our work over the last 6 years, we have first-hand experience with the Consent Decree and MS4 Permit. *There will be no learning curve.* We have worked closely with LFUCG management and legal counsel on all aspects of the Consent Decree and MS4 permit negotiations. Because of this background, we know what EPA and the KDOW expect from LFUCG, and have maintained an excellent working relationship with them. In fact, our project team includes staff who previously worked for EPA on the development of the stormwater regulations, who continue to provide technical support to EPA.

**Tetra Tech, Inc.**  
424 Lewis Hargett Circle, Suite 110, Lexington, KY 40503  
Tel 859.223.8000 | Fax 859.224.1025 | [www.tetrattech.com](http://www.tetrattech.com)

In addition, our team fully understands the proposed requirements in the draft MS4 permit issued for public comment on September 29, 2014 by KDOW. Tetra Tech has been working with LFUCG management and KDOW for 8 months on the draft language, with the goal of having a permit that is tailored to the needs of LFUCG while meeting the regulatory objectives of KDOW. We prepared the permit application that included 31 requested changes to the current permit, most of which were incorporated into the draft permit language. In addition, we reviewed advance copies of the draft permit with LFUCG management and proposed changes where necessary.

**3 We have a vision for the future.** In Section 6, we have included a Vision for Water Quality Improvement that discusses LFUCG's achievements over the last 6 years, an assessment of the basic water quality problems in Fayette County, and a roadmap for the future that involves watershed-based planning and management. In addition, it describes the "watershed-focused monitoring expansion" that is envisioned in the draft MS4 permit. These will be important topics as LFUCG begins to address Total Maximum Daily Load implementation plans.

The management of this project, and nearly all of the work on this project, will be by people currently working in the Lexington offices of Tetra Tech and Third Rock Consultants. Being local to the community means we are *personally invested* in improving the *quality of life* in Lexington, and we take great satisfaction in working *together with you* to reach your goals. We look forward to working with you on this project!

Sincerely,

A handwritten signature in blue ink that reads "Richard W. Walker". The signature is written in a cursive, flowing style.

Richard W. Walker, P.E.  
Vice President

## SUMMARY OF TETRA TECH and THIRD ROCK QUALIFICATIONS

To facilitate the review of the attached proposal, we have summarized key aspects of our team's ability to satisfy your scoring criteria. Additional information is provided in the locations referenced.

Selection Criteria	Tetra Tech and Third Rock Highlights	Proposal Section
<b>Cost of Services</b>	<ul style="list-style-type: none"> <li>We have been LFUCG's MS4 program manager for 6 years. During this time, our annual fees have been below LFUCG's budget.</li> </ul>	Section 1
<b>Specialized Experience and Technical Competence</b>	<ul style="list-style-type: none"> <li>Current MS4 Program Manager, which means an in-depth working knowledge of LFUCG's programs and processes and no learning curve</li> <li>Worked hand-in-hand with LFUCG management and KDOW on the draft MS4 permit</li> <li>Innovative water quality data analysis and communication to the public</li> </ul>	Section 2
<b>Capacity to Perform the Work</b>	<ul style="list-style-type: none"> <li>Local staff with proven experience in providing MS4 program management services</li> <li>Resource pool of over 200 specialized stormwater experts and professionals</li> <li>Access to more than 14,000 professionals worldwide</li> </ul>	Section 3
<b>Character, Integrity, and Reputation</b>	<ul style="list-style-type: none"> <li>Ongoing, trusted working relationship with staff in the Divisions of Water Quality, Environmental Policy, Engineering, Planning, and Law</li> <li>Strong national reputation – since 1966</li> </ul>	Section 4
<b>Past Record of Performance</b>	<ul style="list-style-type: none"> <li>Proven performance as LFUCG's MS4 Program Manager</li> <li>Conducted stormwater monitoring in Fayette County since 1992</li> <li>National experience in providing stormwater technical services to EPA, states, and cities</li> </ul>	Section 5
<b>Familiarity with the Project</b>	<ul style="list-style-type: none"> <li>Developed LFUCG's Stormwater Quality Management Program that is part of the Consent Decree and MS4 permit</li> <li>Developed scheduling, reporting, and document management systems used by LFUCG staff</li> <li>Understanding of the draft MS4 permit and the water quality problems in Fayette County</li> </ul>	Section 6
<b>Degree of Local Employment</b>	<ul style="list-style-type: none"> <li>Over 90% of staff hours are for people currently working in Lexington</li> </ul>	Section 7



## SECTION 1 » ESTIMATED COST OF SERVICES

### OVERVIEW

The RFP acknowledges that there is uncertainty associated with implementing the MS4 provisions of the Consent Decree, draft MS4 permit, and the SWQMP. Thus, it is difficult to provide a precise estimated cost of services. However, to be responsive to the RFP, we have attempted to estimate these costs with the understanding that they are planning-level estimates. Based upon our past work and current understanding of the draft MS4 permit, we believe the estimated annual costs for the core services described in the RFP will range from \$400,000 to \$600,000, depending upon the level of involvement by LFUCG staff. **Over the past 6 years, our annual fees have consistently been below the annual budget established by LFUCG.**

The following schedule of hourly rates is in effect for the duration of the contract (5 years) for all employees of Tetra Tech and Third Rock Consultants who are reasonably expected to contribute significant time to the final work product. These rates are limited to those individuals expected to contribute a minimum of 10% to the overall work product described in LFUCG’s RFP scope of services. Final contract price will be negotiated and determined after refinement of the scope in the initial scoping meetings.

Name	Classification	Hourly Billing Rate
Richard Walker	Program Manager	\$210
Barry Toning	Stormwater Policy Analyst	\$135
Laura Sheeran	Project Engineer I	\$95
Christopher Diehl	Project Engineer III	\$135
Shann Easterling	Senior Technician	\$95
Steve Evans	Environmental Scientist	\$145
Jennifer Shelby	Environmental Engineer	\$145
Bert Remley	Environmental Scientist I	\$105
Cory Bloyd	Environmental Scientist III	\$75
Field monitoring staff	Environmental Technicians I and II	\$55–\$65



## **COST CONTROL**

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Tetra Tech is keenly aware of the need to control costs. We understand the importance of completing a task on time and within the budget that LFUCG agrees to at the beginning of that task. To that end, we will continue to use a task order method of conducting work, which we have been using over the last 6 years under our current contract. We will develop a written scope of work for each task order, with a schedule and estimated hours / fee for various staff to complete the work. We will not begin work until the LFUCG project manager has given us written approval of the task order.

To develop the scope of work for each task order, we will use a concept that has proven successful on many projects, including our current program management contract with LFUCG. That concept is to start work on a task with a *Begin with the End in Mind* attitude. It is important for our staff and the LFUCG project manager to clearly understand and articulate what the end product will be. To develop the scope of work for each task order, we will conduct a meeting with the LFUCG project manager and other LFUCG staff as needed to ensure that the end product is clearly identified. Once the task order is approved, we will hold periodic progress meetings to ensure the project is on schedule and that *scope creep* does not occur. Changes to the original task order scope of work will not happen unless the LFUCG project manager has given written approval.



## SECTION 2 » SPECIALIZED EXPERIENCE AND TECHNICAL KNOWLEDGE

### OVERVIEW

**Top 500 Design Firms**

**ENR** Rankings for 2014  
Engineering News-Record

**WATER**

- 1 Water Supply (11 years in a row!)
- 1 Water Treatment/Supply
- 2 Transmission Lines & Aqueducts
- 2 Treatment & Desalination
- 3 Sanitary & Storm Sewers
- 5 Sewer & Waste
- 10 Wastewater Treatment

**Nation's #7 Design Firm**

The Tetra Tech team provides LFUCG a rich blend of in-depth local knowledge and national experience to continue the implementation of LFUCG's Consent Decree and MS4 permit – as we have done for the last 6 years. This combination offers Lexington a perspective and knowledge base that can address the specific local issues that are your immediate priority, while keeping anticipated future regulatory requirements in mind. This will lead to innovative, cost-effective solutions that accomplish multiple objectives.

Nationally, Tetra Tech has been ranked No. 1 in Water by *Engineering News-Record* for more than 10 consecutive years. We have a continuous focus on providing clear solutions to client challenges. Tetra Tech has a national reputation as a leader in stormwater and watershed planning. At the federal level, Tetra Tech is the consultant contractor for USEPA's stormwater program. In this role, we

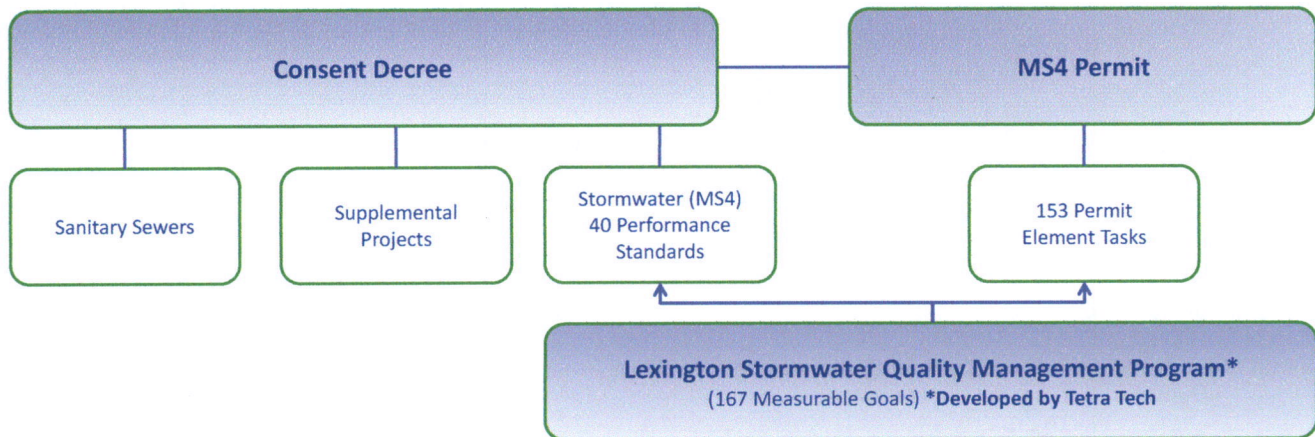
provide technical support, technical tools / guidance manual development, and case study assessment of potential impacts of proposed regulations, among other activities. Tetra Tech wrote USEPA's watershed planning handbook, and we have completed thousands of Total Maximum Daily Loads (TMDLs) across the country.

This understanding of the regulatory framework has translated into implementation of programs at the state and local level. We have supported Pennsylvania and Minnesota in development of their state programs. At the local level, we have worked closely with clients that include major cities and small communities in implementing a range of stormwater programs, from standards to processes to development of implementation priorities. These municipal programs have been driven by MS4 and TMDL programs. Municipalities served at the local level include major metropolitan areas and small communities in multiple states.

Lessons learned through the multiple levels of stormwater programs (federal, state, and local) provide a one-of-a-kind background in stormwater management that is currently provided to LFUCG. Our local staff has direct access to the specific individuals who have worked on these projects, and will continue integrating this specialized expertise directly into LFUCG's stormwater program.

The following pages further discuss some of Tetra Tech's skills in stormwater management and MS4 programs, followed by a section on Third Rock Consultants' specialized experience. Further information on projects is included in Section 5.





### SPECIALIZED LFUCG EXPERIENCE

Tetra Tech has been working hand-in-hand with LFUCG staff to successfully implement the stormwater provisions of the Consent Decree and the MS4 permit for the last 6 years. As a result, we fully understand how to work with the various LFUCG departments and divisions to gain needed information and to implement new procedures and operating protocols. Section 6 describes our familiarity with the Consent Decree, MS4 permit, and Stormwater Quality Management Program (SWQMP).

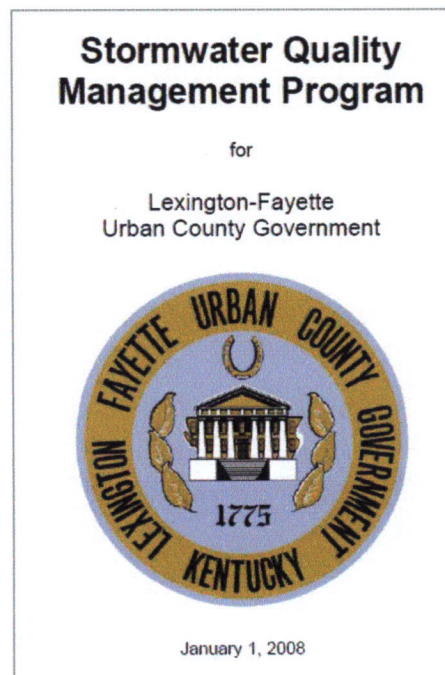
**Thanks to our involvement and close working relationship with LFUCG, Tetra Tech provides an unmatched *specialized experience and technical competence* in our understanding of the SWQMP.**

In 2006, the USEPA and Commonwealth of Kentucky sued LFUCG for violations of the Clean Water Act (CWA). As part of the negotiations with USEPA and the Commonwealth, LFUCG retained Tetra Tech to develop the SWQMP, which was incorporated into the Consent Decree and the MS4 permit.

The SWQMP is a comprehensive program to ensure compliance with the MS4 permit and reduce the pollutants from the MS4. It contains the procedures and protocols for implementing best management practices by City staff in the various departments and divisions. The SWQMP addresses the following elements:

- Watershed management
- Legal prohibition and control authority

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Pollution prevention in residential and commercial areas
- Pollution prevention for municipal operations
- Industrial facility and municipal waste facility stormwater pollution prevention
- Water quality monitoring
- Reporting and recordkeeping.

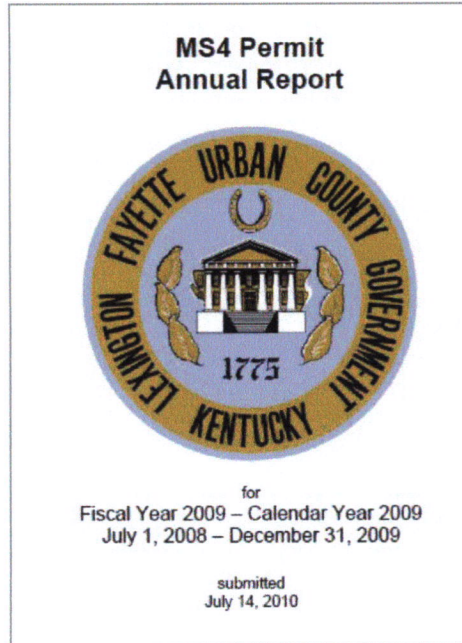




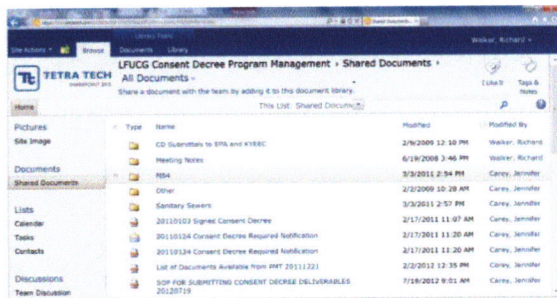
Documentation and regulatory reporting to USEPA and the KY Division of Water (KDOW) are critical parts of the project that Tetra Tech is currently providing. Documentation is critical to the success of implementing the Consent Decree. Without sufficient documentation, USEPA assumes an activity did not happen. Likewise, the Kentucky Division of Water (KDOW) requires sufficient documentation of permit requirements, and without it, a community can be cited for Lacking in Paperwork (LIP). Tetra Tech has developed a streamlined system to complete quarterly and annual reports and submit required reports/studies to USEPA and KDOW. The following table is a snapshot of the magnitude of reporting that has been accomplished over the last 6 years.

Features of the website include a calendar, schedule of upcoming meetings, meeting notes, copies of all deliverables submitted to USEPA, and copies of reports, checklists, PowerPoint presentations, and protocols developed by the Tetra Tech team and LFUCG staff.

EPA/KYEEC Reports Prepared by Tetra Tech	Number
MS4 Annual Reports	6
Consent Decree Annual Reports	6
Consent Decree Quarterly Reports	22



To aid in the documentation process, we have developed and currently maintain a SharePoint website for use by LFUCG staff. The website is a document center for all of the reports, studies, and other deliverables required by the Consent Decree and MS4 permit. The website is a useful tool for efficiently sharing up-to-date information among multiple users.





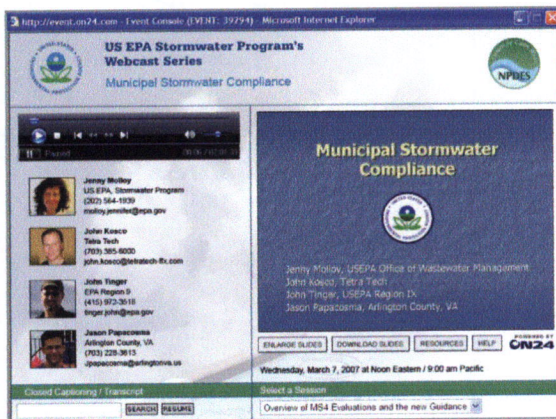
## SPECIALIZED EXPERIENCE WITH THE USEPA STORMWATER PROGRAM

Tetra Tech has provided technical support to USEPA on its municipal stormwater program for many years.

### Municipal Stormwater Compliance

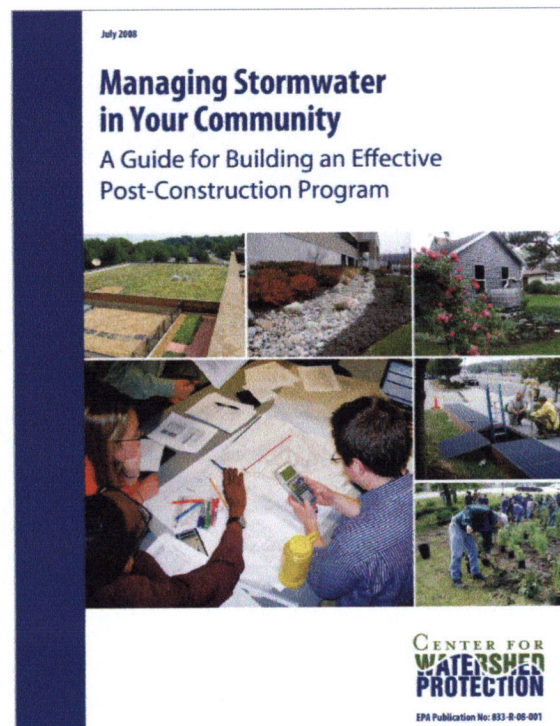
Tetra Tech developed for USEPA a *Municipal Separate Storm Sewer System (MS4) Program Evaluation Guidance (Field Test Version)*. This guide describes how a USEPA or state inspector can conduct an MS4 evaluation, and provides guidance on the types of questions to ask for each stormwater program area.

The guide covers pre-evaluation preparation such as evaluation notification procedures, materials to review before the evaluation, and conducting a review of annual reports. The guide also discusses two types of evaluations – a screening-level evaluation and a detailed onsite evaluation. For the chapter on conducting detailed onsite evaluations, Tetra Tech identified the common activities expected to be conducted by an MS4 for each major program area. Tetra Tech then described in the guide the types of questions that should be asked to assess effectiveness and compliance.



## USEPA Post-Construction Stormwater Guidance

Under contract to USEPA, Tetra Tech teamed with the Center for Watershed Protection to develop *Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program*. Tetra Tech managed the development of this guidance and was lead author on several chapters. Tetra Tech also provided editing and graphics support to produce the final document. This post-construction guide provides stormwater Phase II MS4s with practical guidance, insights, and tools to build effective post-construction programs. The guide walks a Phase II stormwater program manager through a post-construction program life cycle, including program development, drafting ordinances, plan review, inspections, maintenance, and other key components. The guide includes eight electronic tools that are downloaded separately and helps municipalities implement the program.



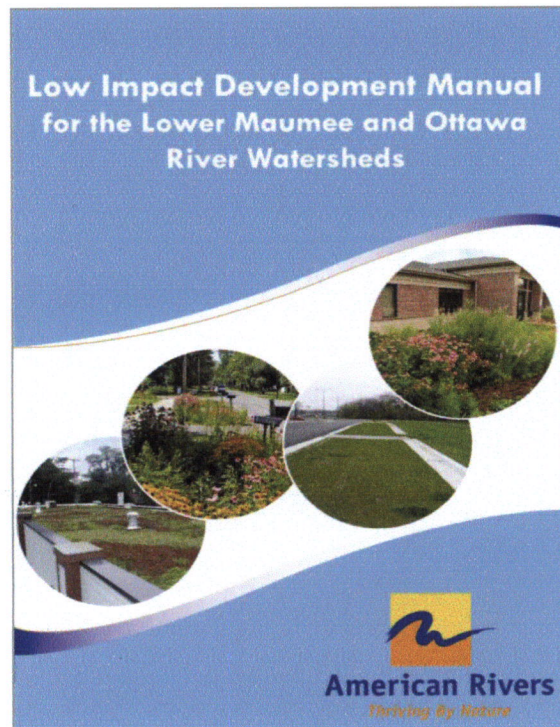


## SPECIALIZED EXPERIENCE FOR MUNICIPALITIES

In **Toledo, Ohio**, Tetra Tech developed a Low Impact Development (LID) manual for the American Rivers Organization for the Lower Maumee and Ottawa River Watersheds.

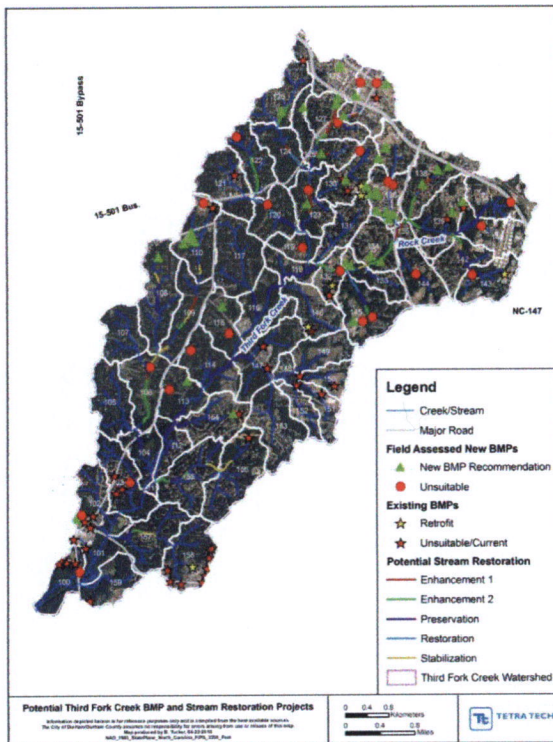
The Lower Maumee River Watershed is the most downstream subwatershed of the Maumee River Basin and thus accepts water from the entire watershed before discharging to Lake Erie. The Ottawa River Watershed is north of the Maumee River Watershed and also drains to Lake Erie. Within the two watersheds, agriculture is the predominant land use, and urban development is occurring in and around the City of Toledo and Lucas County, Ohio.

American Rivers received funding for this project from the Joyce Foundation and worked with Tetra Tech to develop the manual. The purpose of this manual is to provide stormwater managers and site designers with a common understanding of LID goals and objectives, site assessment considerations, and a toolbox of stormwater Best Management Practices (BMPs) applicable to the Lower Maumee and Ottawa River watersheds. BMP information includes design guidelines, specifications, details, and maintenance concerns, assistance in selecting the BMPs based upon the characteristics of a particular site. This is a technical manual and the information provided is targeted for engineers, planners, landscape architects, technical staff to policy makers, and developers.



This manual also helps foster a watershed approach to improving water quality within the region. With this understanding, the manual focuses on stormwater BMPs that apply across the two watersheds, ranging from using vegetated buffers in agricultural areas to vegetated roofs in urban areas. The aspiration is to create a user-friendly watershed-wide LID manual to help protect the rivers and streams within the Lower Maumee and Ottawa River watersheds.

In the **City of Durham, North Carolina**, Tetra Tech conducted a project that involved a stormwater retrofit analysis, which was intended to evaluate existing facilities to determine if other benefits might be obtained through updates or retrofits of the facility. In this way, existing storm ponds, for example, could undergo outlet redesign to improve water quality benefits while continuing to provide their original purpose of flood control. Tetra Tech helped identify opportunities where green infrastructure (GI) could be used in locations for pretreatment and for small storm treatment so that only larger flood events would go into the existing basins.



stakeholder group to develop a watershed-based plan addressing EPA's nine key elements for Hinkston Creek, which has been listed as impaired for many years due to poor biological conditions and elevated levels of fecal coliform bacteria, sedimentation, and nutrients linked to low dissolved oxygen (DO) and organic enrichment. The plan, which was approved by the Kentucky Division of Water (KDOW) in June 2011, included detailed cost and load reduction information for a suite of mostly agricultural BMPs, was based upon conventional modeling approaches and innovative analytical tools.



The **City of Dublin, Ohio**, hired Tetra Tech to revise its stormwater design manual to address its new Bridge Street Corridor, form-based development code. The manual was created to provide guidance and policies on effective and preferred stormwater management approaches within the Bridge Street Corridor, which involved managing stormwater runoff from site development, streets and streetscapes (including planned new streets), and open spaces.

In **east-central Kentucky**, Tetra Tech developed a Quality Assurance Project Plan, collected existing and new water quality data, implemented an outreach/education program, and worked with a



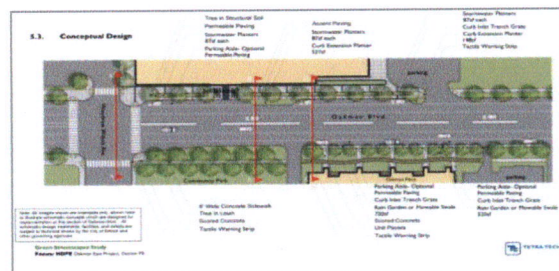
Chapter 5: Stormwater Control Measures	
<b>(2) Traditional Bioretention</b>	
<b>1. Siting Setbacks</b>	<ul style="list-style-type: none"> <li>1 Pavement <math>\geq 2</math> feet w/ soil retention</li> <li>2 Building <math>\geq 2</math> feet w/ soil retention</li> <li>3 Property lines/ICM <math>\geq 2</math> feet</li> <li>4 Groundwater/Karst/Bedrock Bottom of practice to be <math>\geq 2</math> feet above or over impermeable layer.</li> <li>5 Septic System/Wells <math>\geq 50</math> feet/100 feet</li> </ul>
<b>2. Volume</b>	<ul style="list-style-type: none"> <li>1 Contributing Drainage Area <math>\leq 2</math> acres</li> <li>2 Footprint Surface area will generally be between 5 and 30 percent of drainage area.</li> <li>3 Dimensions None</li> <li>4 Bottom slope Flat</li> <li>5 Side slopes 3:1 or flatter above the surface</li> <li>6 Freeboard 6 to 12 inches</li> </ul>
<b>3. Vertical Component</b>	<ul style="list-style-type: none"> <li>1 Surface Storage 6 to 12 inches</li> <li>2 Growing Layer 24 to 12 inches soil media 3 inches of mulch, min.</li> <li>3 Filter Layer 2 to 4 inches of clean medium sand (ASTM C-33) over 2 to 3 inches of #8 or #18 washed stone.</li> <li>4 Drainage Layer approx. 5 ft fall between inlet and underdrain outlet.</li> <li>5 Inlet None</li> </ul>
<b>4. Drainage</b>	<ul style="list-style-type: none"> <li>1 Inlet Include pretreatment.</li> <li>2 Underdrain 6-inch PVC with cleanout designed to minimize clogging, sandblow, and maintenance.</li> <li>3 Outlet Catch basin set above surface storage.</li> <li>4 Overflow No requirement.</li> <li>5 Infiltration No requirement.</li> <li>6 Dewatering 40 to 72 hours.</li> </ul>
<b>5. Composition</b>	<ul style="list-style-type: none"> <li>1 Surface Treatment Vegetation</li> </ul>

In Lansing, Michigan, Tetra Tech integrated stormwater quality improvements in an ultra-urban environment. This project demonstrated that stormwater treatment can be designed as an amenity and aesthetic feature for the public to enjoy. The sizing of the streetscape was intended to provide as much opportunity as possible for stormwater to enter bioretention areas within space constraints. Tetra Tech developed an innovative design concept for the bioretention cells to work around underground utilities and allow for curbside parking. This project encompasses four blocks along a very busy five-lane road (Michigan Avenue). The end result is that at least 1 inch of rainfall is treated throughout the entire project, and up to 4 inches of rainfall can be treated in certain component areas.



In Detroit, Michigan, the Detroit Water and Sewerage Department (DWSD) and the Michigan Department of Environmental Quality (MDEQ) negotiated a GI program to assist in reducing CSOs to the Rouge River. This program replaced the Upper Rouge Tunnel (URT), proposed at that time.

The GI program is part of DWSD's National Pollutant Discharge Elimination System (NPDES) permit and includes a requirement to invest \$15 million in GI from 2013–2017, and a performance expectation of 2.8 million gallons (MG) of stormwater removed from the combined sewer system during a 2-year, 24-hour storm event.



Tetra Tech has been working with DWSD since February 2014 to implement its GI program and NPDES permit requirements. The primary purpose of the program is the reduction of combined sewage flows through stormwater management. The project is being coordinated with DWSD, the City of Detroit, the Southeastern Municipal Council of Governments (SEMCOG), and a wide variety of other institutional partners.

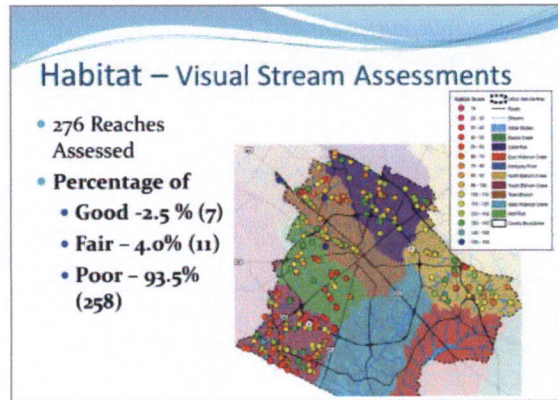
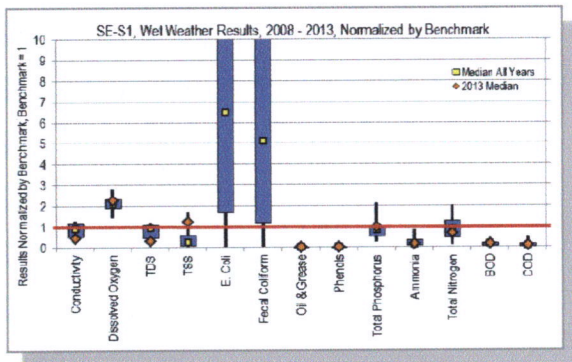




### THIRD ROCK CONSULTANTS SPECIALIZED EXPERIENCE

#### Innovative Data Communication

In addition to collecting and reporting data for Consent Decree / MS4 compliance, our team is experienced with providing innovative data communication to relay important information related to stormwater and stream water quality to public and private stakeholders and watershed councils. We have specialized experience assimilating vast amounts of varied data and presenting it in ways that are valuable to both technical and non-technical audiences, relying on graphical presentations of complex data to make it easier to understand and use. These means have been used in annual reports and in public meetings. An example of innovative data communication implemented by our team was an extensive presentation prepared in June 2014 for the LFUCG Stormwater Stakeholder Advisory Committee (SAC) to provide them with current information on Lexington’s monitoring program and the 5-year trend analysis results. This presentation allows stakeholders to focus efforts on the primary sources and causes of impairment.



Our experience includes condensing immense amounts of data and performing appropriate analyses to extract valuable conclusions. Our staff evaluated 15,152 water quality analyses and biological metric scores collected over the past 5 to 10 years to find that water quality has been relatively static with few significant trends. Watershed Fact Sheets have been developed to provide a one-page summary of water quality for each watershed. Our team uses charts, tables, stream hydrographs, box-and-whisker plots, and pollutant load duration curves to demonstrate the scope and nature of quality impacts. Additionally, our team has developed a protocol to characterize overall stream health using a summary status rating of good, fair, poor, or very poor. These summaries allow stakeholders to understand that pathogens are a significant problem throughout the MS4, particularly in wet weather, but contrary to popular understanding, are problematic only regionally, and that metals and numerous other parameters are routinely within acceptable limits. Lack of habitat and increased volume and velocity of stormwater runoff are greater contributors to aquatic life impairments in the area.

#### Monitoring Program Evaluation

Third Rock Consultants has developed a customized program to evaluate the fitness of the LFUCG MS4 monitoring program so as to meet the goals of the permit and identify water quality problems within MS4 watersheds. Through a combination of this evaluation program and trend analysis of the monitoring results, it was determined that numerous parameters were not providing meaningful data, or were being collected too



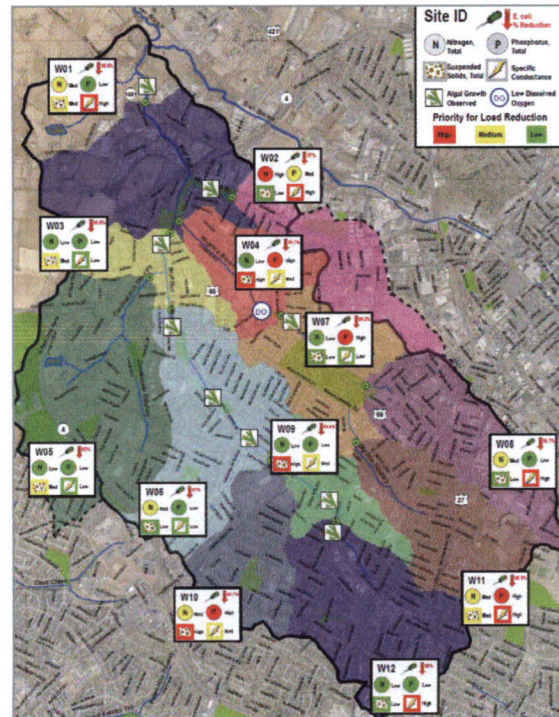
frequently. These conclusions were used in negotiations with KDOW to reduce or drop many previously permit required parameters, providing significant cost savings. Additionally, the evaluation showed that to identify priority catchments within each watershed, the type of monitoring and number of locations needed to change into a more dynamic, watershed focused model. These recommendations were also negotiated with KDOW and included in the new permit. Thus, the monitoring program evaluation has resulted in a shift away from parameters and locations that yielded little value to methods and locations that aid in improving water quality.

### Integrative Watershed Approach

Professionals within our team have set the standard in Kentucky for watershed planning; our specialized experience with implementing watershed planning using available resources is unparalleled. Third Rock Consultants authored the first comprehensive watershed plan approved in Kentucky for the Laurel / Little Laurel River watershed and has since authored the majority of 319(h) grant-funded watershed plans in Kentucky, including Hanging Fork, Clarks Run, Wolf Run in Lexington, and Chestnut Creek. These watershed plans have been used to develop TMDLs and implementation plans to address loading allocations.

Data and information gathered for Consent Decree / MS4 Permit compliance are valuable and should be used to support overall resource planning in LFUCG's watersheds. Our team's watershed approach uses extensive GIS mapping / analysis to organize and interpret all available data and monitoring results to effectively target and prioritize locations for supplemental environmental projects or BMPs, including stormwater wetlands, bioretention areas, stream and wetland restoration, riparian enhancement, land preservation, public education, and the development of ordinances to guide LID. Through integrative watershed planning, opportunities to achieve layers of use from a project are elucidated allowing us to more effectively achieve desired functions and be good stewards of public monies. For example, a planned sanitary sewer refurbishment project along a stream would combine well with the implementation of riparian

enhancement, a greenway / trail system, and other measures to mitigate stormwater runoff and improve stream stability.



Our integrative watershed approach recognizes the need for building partnerships and soliciting stakeholder input. We have effectively engaged and facilitated stakeholder groups associated with the production of many watershed plans. For instance in the Wolf Run Watershed, our scientists identified the causes and sources of impairment in the catchments and then enjoined non-technical citizens and stakeholders in developing a BMP implementation strategy to mark out the best course to address these issues. This plan has already been used to obtain at least \$600,000 in additional funding to address impairments. We know that input from all players within LFUCG, other agencies, and the community is key to identifying solutions that take advantage of all resources available and will ultimately improve stream quality.

Third Rock has developed watershed assessments for each of the seven major watersheds that drain the urban service area. These documents bring together all land use and monitoring data for these areas and provide the foundation for the next steps of watershed specific monitoring and implementation planning.





## SECTION 3 » DEMONSTRATED CAPACITY OF THE PERSON OR FIRM TO PERFORM THE WORK

### OVERVIEW

The Tetra Tech team, comprised of Tetra Tech and Third Rock Consultants, will provide LFUCG with expertise, local knowledge, and staff support necessary to successfully provide the program management services.

Tetra Tech has structured its team to provide locally based staff members who are familiar with LFUCG processes and procedures, and additional specialized staff members to bring you specific expertise that will benefit Lexington as this project is implemented. Doing so provides key benefits to LFUCG: responsiveness and leading-class expertise.

### TEAM ORGANIZATION CHART

The following organization chart shows team members who will work on this project. Under the overall task of project management, which will be led by Richard Walker of Tetra Tech, are three main task areas: MS4 permit compliance, SWQMP update, and review of LFUCG's MS4 policies, procedures, ordinances, and guidance documents.

Team members are integrated into project task teams represented by the boxes on the organizational chart. Integration of personnel across firm lines ensures a team approach to problem solving and maximizes the power of the combined knowledge of key personnel. Our companies and staff have worked together on previous projects in Lexington and elsewhere, and are excited to work together again for LFUCG.

The Tetra Tech team blends the talents of both local and national personnel. The team members shown have experience with projects similar to LFUCG's, including projects with tight schedules and budgets.



## **Lexington-Fayette Urban County Government**

Charles Martin, P.E. – Director of Water Quality

Jennifer Carey, P.E. – MS4 Coordinator

### **Program Manager**

Richard Walker, P.E.

### **MS4 Permit Compliance**

**Public Education / Involvement:** Barry Tinning; Steve Evans (TRC)

**Illicit Discharges:** Steve Evans (TRC)

**Construction Sites:** Barry Tinning

**Post-Construction:** Richard Walker, P.E.

**Municipal Operations:** Barry Tinning; Jennifer Shelby (TRC)

**Industries:** Barry Tinning; Gerry Fister, P.G. (TRC)

**Water Quality Monitoring:** Steve Evans (TRC); Bert Remley (TRC); Cory Bloyd (TRC)

### **Critical Review of MS4 Policies and Procedures, Ordinances, and Guidance Documents**

John Kosco, P.E.

### **SWQMP Update / Critical Path Scheduling**

Barry Tinning  
Steve Evans (TRC)

### **Technical Support**

**Technical Writing; Reporting; Program Development; Reporting; Workshop Development; Training; Project Website; and Engineering**

Herbert Lemaster, P.E.; Daniel Christian, P.E.; Christopher Diehl, P.E.;

C. Zachary Wilder, P.E.; Stefanie Farrell, EIT (TRC); Caitlin Fleming, P.E.;

Laura Sheeran, EIT; Brian Watson, P.E.



## STAFF BIOGRAPHIES

### **RICHARD WALKER, P.E., CFM (TETRA TECH) –**

Mr. Walker has 31 years of experience in civil and water resources engineering. He currently manages water resource projects for cities, state governments, and industries, including program management efforts for consent decrees, floodplain analyses, watershed master plans, stormwater utilities, and stormwater Phase I and Phase II permit implementation. He is the MS4 program manager for Lexington.

**BARRY TONNING (TETRA TECH) –** Mr. Tinning is a senior-level water resource consultant specializing in stormwater management, erosion and sediment control, risk assessment and communication, public health, and technology transfer with extensive experience in training, policy development, and program design. Over the past 25 years, he has directed and managed stormwater and erosion/sediment control training and compliance programs, environmental and natural resource policy research initiatives, nonpoint source pollution assessment and control projects, and watershed planning and management activities. Mr. Tinning has had extensive involvement with LFUCG staff in the development of their Construction Site Runoff Control Program.

**STEVE EVANS (THIRD ROCK) –** Mr. Evans is an Environmental Scientist for Third Rock. His versatility, innovation, and ability to tailor his biology expertise and capabilities to a variety of applications has allowed him to work in a broad range of environmental projects. He has experience in water quality sampling and analysis, stream and wetland delineation and assessment, ArcGIS and MicroStation mapping software, botanical surveys, NEPA reporting, surface water permitting, invasive control and restoration, and traffic noise assessment. With a laboratory quality assurance background coupled with experience in water quality and biological sampling, Mr. Evans has specialized in watershed planning and analysis. He has developed plans throughout the state of Kentucky including Wolf Run, Hanging Fork, Clarks Run, and Chestnut Creek. In Lexington, he has provided extensive involvement in the development and management of the MS4 monitoring program.

### **JOHN KOSCO, P.E., CPESC (TETRA TECH) –** John

Kosco is a national MS4 expert with experience in MS4 permitting, program development, training and inspections/audits. Mr. Kosco was with EPA for 9 years and was one of the co-authors of the stormwater Phase II rule. While at EPA, he also led the outreach effort after the Phase II rule was published and developed EPA's National Stormwater Menu of BMPs to support implementation of the rule. Since leaving EPA, Mr. Kosco has worked at Tetra Tech for the past 10 years where he leads Tetra Tech's support to EPA, states, and local governments as they implement the stormwater requirements. Mr. Kosco has led MS4 audits of over 120 municipal stormwater programs, and was the author of EPA's guidance document on how to conduct an MS4 audit (EPA's MS4 Program Evaluation Guide, 2007). Mr. Kosco also led Tetra Tech's support to EPA's stormwater outreach program, which included hosting over 20 stormwater webcasts and over 40 on-site stormwater training workshops. Mr. Kosco has also provided detailed, multi-day training to stormwater staff in at least five states on permitting, program requirements, and inspection/audit procedures. Using his MS4 program and audit experience, Mr. Kosco was the lead author of EPA's new guidance document to states on how to write better MS4 permits (EPA's MS4 Permit Improvement Guide, 2010).

**GERRY FISTER, P.G. (THIRD ROCK) –** Mr. Fister is an Environmental Planner for Third Rock and supports projects with his background in geological sciences and his experience in industrial pretreatment program management. Gerry has provided stormwater quality support for municipalities and industry through the development of groundwater protection plans, spill prevention, control and countermeasures plans and responding to spills and other incidents that impact water quality. Gerry's has an extensive understanding of the regulations governing environmental quality and permitting. His knowledge of a wide range of regulatory programs, and a broad background in the application of environmental science make him a valuable asset to Third Rock's clients. Gerry also supports projects that have a groundwater quality component, particularly with Lexington local karst groundwater considerations, Gerry's insights can be important to



the successful understanding of surface water quality.

**JENNIFER SHELBY, P.E., CPESC (THIRD ROCK) –**

Ms. Shelby has dedicated her career to the enhancement of environmental quality, including nonpoint source pollution and stormwater management, watershed-scale assessment of hydrology and water-quality, green stormwater infrastructure planning and design, environmental permitting, and stream and wetland restoration. Having worked in Kentucky, Tennessee, and North Carolina, she is experienced with developing and implementing watershed monitoring schemes and assessing the data produced, as well as designing and constructing large-scale stream and wetland restorations. Her role as a water resources engineer also includes management of environmental projects.

**BERT REMLEY (THIRD ROCK) –** Mr. Remley has been sampling streams in Fayette County each year since 1998. He is Third Rock's senior aquatic biologist and is the Quality Control/Quality Assurance Officer for Third Rock's aquatic biology laboratory. In addition to macroinvertebrate taxonomy, Bert also conducts stream sampling for aquatic macroinvertebrates, fish, plankton, and freshwater mussels. He is experienced in the identification and ecology of aquatic macroinvertebrates and fish of the region, conducting surveys in Kentucky, Ohio, Indiana, Illinois, Tennessee, West Virginia, Virginia, South Carolina, and North Carolina. Mr. Remley has also conducted hundreds of biological assessment for threatened and endangered species in Kentucky and Tennessee including numerous bat, fish, and mussel species. Bert holds certifications from the Society for Freshwater Science to identify macroinvertebrates, and is certified by the Ohio Environmental Protection Agency to collect, identify and data evaluation of macroinvertebrates. As a PADI-certified open water diver and part of Third Rock's dive team, he has led numerous mussel surveys.

**DANIEL CHRISTIAN, P.E., D.WRE (TETRA TECH) –**

Mr. Christian's expertise includes hydraulics, hydrology, computer modeling, stormwater management and permitting, low impact development design, master plans, database programming, water quantity and quality

monitoring, rate development, project development, and project management. He has worked on a wide variety of projects including NPDES permitting, watershed management, hydrologic/hydraulic studies, and a variety of design and construction projects. For several years, Mr. Christian has performed as Project Manager for the study, design, construction, and monitoring of green infrastructure projects. He has prepared numerous studies and designs for a wide variety of best management practices (rain gardens, bioretention, infiltration, porous pavement, water conservation, etc.). This work often involves green infrastructure in roadway corridors as well as site developments. Mr. Christian was the project manager and lead hydraulic engineer of a project in Milwaukee to conduct an alternatives analysis of ways to mitigate surface flooding. He also has extensive experience as a workshop presenter for the EPA.

**HERBERT LEMASTER, P.E. (TETRA TECH) –**

Mr. Lemaster is a senior designer in the Lexington office. He has an extensive background in project analysis and design, writing specifications, developing contract documents and cost estimates, preparation of construction drawings, construction administration, and construction engineering. Mr. Lemaster serves as a project manager and engineer on various civil and environmental projects. He has worked on many stormwater projects, including stormwater retention basins, evaluations of stormwater facilities, and stormwater modeling.

**CHRISTOPHER DIEHL, P.E. (TETRA TECH) –** Mr. Diehl

has served as an engineer on hydraulic modeling projects and sanitary sewer rehabilitation projects. He has experience in data collection, data analysis, pipe system capacity analysis, modeling sewer systems and open channels, and sanitary sewer design. He is experienced in using hydrologic / hydraulic modeling software and GIS software, including HEC-RAS, HEC-GeoRAS, xpswmm, InfoWorks, AutoCAD, and ArcGIS. He has experience in floodplain and floodway modeling, mapping, and permitting projects around Kentucky.

**STEFANIE FARRELL, EIT (THIRD ROCK) –** Ms. Farrell

has 9 years of experience as a utility engineer. In that role, she gained an understanding of the complex roles that utility managers play balancing

