

CONSULTANT SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of June 15th, 2020, between the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**, an urban county government of the Commonwealth of Kentucky pursuant to KRS Chapter 67A ("**OWNER**") and **Tetra Tech, Inc.** with offices located in Lexington, Kentucky ("**CONSULTANT**"). **OWNER** intends to proceed with the **Municipal Separate Storm Sewer System (MS4) Program Management Services Project** as described in the attached **EXHIBIT A**, MS4 Program Manager RFP #8-2020 (the "**PROJECT**"). The **CONSULTANT** shall perform professional engineering services and deliverables as described in **EXHIBIT A** which include customary master planning, civil, geotechnical, electrical, mechanical, structural, programming, water quality and sanitary engineering services as related to providing the deliverables specific to this agreement that will assist the **OWNER** in successfully implementing the **PROJECT** and complying with any requirements which are related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the "**CONSENT DECREE**"). The services are hereinafter referred to as the **PROJECT**. The primary goal of the **PROJECT** is to provide the **OWNER** with the technical support necessary to successfully meet the obligations and deadlines of the **CONSENT DECREE**. **OWNER** and **CONSULTANT** in consideration of their mutual covenants herein agree in respect of the performance of professional engineering services by **CONSULTANT** and the payment for those services by **OWNER** as set forth below.

CONSULTANT shall provide professional consulting services for **OWNER** in all phases of the **PROJECT** to which this Agreement applies, serve as **OWNER'S** professional engineering representative for the **PROJECT** as set forth below and shall give professional consultation and advice to **OWNER** during the performance of services hereunder.

SECTION 1 - BASIC SERVICES OF CONSULTANT

1.1. General

CONSULTANT shall perform professional services as hereinafter stated that include, but are not limited to, customary civil, geotechnical, structural, mechanical, electrical and sanitary engineering services incidental thereto.

1.2. Incorporated Documents

The following documents are incorporated by reference as part of this Agreement:

1. The **CONSENT DECREE**, as may be amended, including all appendices.
2. **EXHIBIT A** – RFP #8-2020 MS4 Program Manager (Including Addendums).
3. **EXHIBIT B** – Certificate of Insurance and Evidence of Insurability.
4. **EXHIBIT C** – Proposal of Engineering Services and Related Matters (the **CONSULTANT's** response to RFP #8-2020).
5. **EXHIBIT D** – Task Order Agreement Form.

To the extent of any conflict among the provisions of these documents and/or this Agreement, the provisions of this Agreement shall control, followed by the provisions of **EXHIBIT A**, and then **EXHIBIT C**.

1.3 Project Phase

A complete description of the duties and responsibilities of the **CONSULTANT** are as indicated in **EXHIBIT A**, MS4 Program Manager RFP #8-2020 and **EXHIBIT C** Proposal of Engineering Services and Related Matters. After written authorization to proceed from the **OWNER**, **CONSULTANT** shall:

- 1.3.1.** Notify the **OWNER** in writing of its authorized representative who shall act as Project Manager and liaison representative between the **CONSULTANT** and the **OWNER**. **OWNER** has the right to approve the Project Manager, or any change thereto, which approval shall not be unreasonably withheld.
- 1.3.2.** The **CONSULTANT** must perform all duties necessary to fully complete the deliverables as further described in attached EXHIBIT A, MS4 Program Manager RFP #8-2020, and attached **EXHIBIT C**, Proposal of Engineering Services and Related Matters **unless otherwise agreed to in writing by the parties**.
- 1.3.3** The **CONSULTANT** shall provide written documentation of all meetings and be responsible for incorporating all comments and changes resulting therefrom in final work product.
- 1.3.4.** The **CONSULTANT** shall submit five (5) copies (hardcover) of all initial draft final work products for this **PROJECT** unless otherwise described in Exhibit A. The copies of the initial draft final reports are submitted for review and comment by the **OWNER**, and should be presented in person to the **OWNER**.
- 1.3.5.** After the **OWNER'S** detailed review, the **CONSULTANT** will revise the initial draft final for all work products for this **PROJECT**, and the **CONSULTANT** shall submit five (5) copies (hardcover) unless otherwise described in Exhibit A. One electronic copy of the all work products for this **PROJECT**, including all appendices, shall be provided and prepared in such a manner that it can readily be converted to a quick-link accessible form for the **OWNER'S** Website. The **OWNER** shall have ten (10) business days within which to accept or deny each such final draft. If it is denied, the **OWNER** shall provide a detailed explanation in writing for the basis of such denial. Once the **OWNER** accepts the draft as final, a total of ten (10) final copies (hardcover) are required in addition to an electronic copy unless otherwise described in Exhibit A.
- 1.3.6** Immediately notify **OWNER** of any delay in the delivery of a work product or deliverable, regardless of cause. Give written notice to **OWNER** within five (5) business days whenever **CONSULTANT** observes or otherwise becomes aware of any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of Contractor(s).

SECTION 2 - EXTRA WORK BY CONSULTANT

- 2.1.** The **OWNER** may desire to have the **CONSULTANT** perform work or render services in connection with this **PROJECT** other than provided by the expressed intent of this Agreement. Such work shall be considered as Extra Work, subject to a change order,

supplemental to this Agreement, setting forth the character and scope thereof and the compensation therefore. Work under such change order shall not proceed until the **OWNER** gives written authorization. Should the **OWNER** find it desirable to have previously satisfactorily completed and accepted plans or parts thereof revised, the **CONSULTANT** shall make such revisions as directed, in writing, by the **OWNER**. This work shall be considered as Extra Work and shall be paid as such.

- 2.2. All Extra Work is subject to prior written authorization of **OWNER** and necessary appropriations made by the Urban County Council.

SECTION 3 - OWNER'S RESPONSIBILITIES

OWNER shall:

- 3.1. Provide criteria and information as to **OWNER'S** requirements for the **PROJECT**, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations.
- 3.2. Assist **CONSULTANT** by placing at his disposal available information pertinent to the Project.
- 3.3. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by **CONSULTANT**, and provide written approval or disapproval thereof within a reasonable time so as not to delay the services of **CONSULTANT**.
- 3.4. Designate in writing a person to act as **OWNER'S** representative agent with respect to the services to be rendered under this Agreement (see Section 8.1.1.). Such person shall have complete authority to transmit instructions, receive information, interpret, and define **OWNER'S** policies and decisions with respect to materials, equipment, elements, and systems pertinent to **CONSULTANT'S** services.
- 3.5. Give written notice to **CONSULTANT** whenever **OWNER** observes or otherwise becomes aware of any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of **CONSULTANT**.
- 3.6. Furnish or direct **CONSULTANT** to provide, Extra Work as stipulated in Section Two (2) of this Agreement or other services as required.

SECTION 4 - PERIOD OF SERVICES

- 4.1. Time is of the essence in the performance of this Agreement. **CONSULTANT** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines. See attached **EXHIBIT A** for the overall current project schedule.
- 4.2. The provisions of this Section Four (4) and the various rates of compensation for **CONSULTANT'S** services provided for elsewhere in this Agreement have been agreed to in anticipation of the orderly and continuous progress of the **PROJECT** through completion.
- 4.3. If a delay results from the acts of **OWNER** or another entity that is required to permit or approve the work or services, an extension of time for such delay will be considered by **OWNER**.
 - 4.3.1. If the above type of delay occurs and **CONSULTANT** wants an extension of time, it must, within ten (10) days from the date of the delay, apply in writing to **OWNER** for an extension of time for a reasonable period, which must be agreed upon by **OWNER**.

- 4.3.2. If the extension of time is approved by **OWNER**, the **PROJECT** schedule shall be revised to reflect the extension. Such extension of time to the completion date shall in no way be construed to operate as a waiver on the part of **OWNER** of any of its other rights in the Agreement.
 - 4.3.3. If the above type of delay would prevent complete performance of the **PROJECT** within sixty (60) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT** or otherwise adjusting the scope of the services or work.
 - 4.3.4. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under “DISPUTES” of this Agreement shall apply.
- 4.4. If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. Section 6.5 of this Agreement (**Disputes**), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will attempt to resolve the delay.

SECTION 5 - PAYMENTS TO CONSULTANT

5.1. Methods of Payment for Services of CONSULTANT.

5.1.1. For Basic Services

OWNER shall issue individual task orders for each work assignment performed under this Agreement by **CONSULTANT** or its sub-consultant/s. Each task order shall contain scope of work, fee, and schedule for performance of the work. Individual task orders shall be of the form included in **EXHIBIT D**.

5.1.1.a Fee payable to **CONSULTANT** under individual task order shall be developed using hourly rates included in **EXHIBIT D** or as amended in accordance with provisions therein.

5.1.1.b Terms of payment to **CONSULTANT** shall be specified in each task order. For assignments with defined scope, lump sum task orders shall be issued. Otherwise, task orders shall include time and materials payment terms.

5.1.1.c Each task order issued shall receive prior written approval of **OWNER** prior to **CONSULTANT** proceeding with said work. The **OWNER's** designated agent in Section 8.1.1. shall be the only person authorized to provide such approval.

5.1.2. For Extra Work

Extra Work shall be paid for by the **OWNER** on the basis of a fixed fee, the amount of which shall be determined by negotiation. The **OWNER** shall have the right to negotiate alternate methods of payment for Extra Work if the **OWNER** determines that the fixed fee basis is not feasible. In the event the **OWNER** and the **CONSULTANT** are unable to agree upon the amount of payment for Extra Work,

then the amount of such payment shall be determined pursuant to Section 6.5 (Disputes).

5.2. Times of Payment

5.2.1 CONSULTANT shall submit to OWNER detailed monthly statements for Basic Services and Extra Work rendered. The Statements will be based upon CONSULTANT'S estimate of the proportion of the total services actually completed at the time of billing. OWNER shall respond to CONSULTANT'S monthly statements within thirty (30) days, either denying payment or making payment.

5.3. Other Provisions Concerning Payments

5.3.1. In the event the Agreement is terminated by the OWNER without fault on the part of the CONSULTANT, the CONSULTANT shall be paid for the work performed or services rendered for which it has not already been paid in an amount bearing the same ratio to the total Agreement fee as the amount of work completed or partially completed and delivered to the OWNER is to the total amount of work provided for herein, as determined by mutual agreement between the OWNER and the CONSULTANT.

5.3.2. In the event the services of the CONSULTANT are terminated by the OWNER for fault on the part of the CONSULTANT, the CONSULTANT shall be paid reasonable value of the work performed or services rendered and delivered for which it has not already been paid, and the amount to be paid shall be determined by the OWNER.

SECTION 6 - GENERAL CONSIDERATIONS

6.1. Termination

6.1.1. CONSULTANT may only terminate this Agreement due to OWNER'S material breach of the terms hereof which breach causes CONSULTANT to be unable to perform its duties and responsibilities under this Agreement and upon forty-five (45) days written advance notice to OWNER.

6.1.2. The OWNER may terminate this Agreement for cause upon seven (7) business days written advance notice to the CONSULTANT. The OWNER reserves the right to terminate the Agreement for any reason whatsoever, with or without cause, at any time upon thirty (30) days written advance notice to the CONSULTANT.

6.2. Ownership and Reuse of Documents

All documents, including raw data, reports, drawings and specifications, prepared by the CONSULTANT pursuant to this Agreement shall be delivered to and become the property of the OWNER. The OWNER shall have the right to reuse same without restriction or limitation, but without liability or legal exposure to CONSULTANT.

6.3. Legal Responsibilities and Legal Relations

- 6.3.1.** The **CONSULTANT** shall familiarize itself with and shall at all times comply with the **CONSENT DECREE** and all federal, state, and local laws, ordinances, and regulations that in any manner affect the services of this Agreement.
- 6.3.2.** In performing the services hereunder, the **CONSULTANT** and its consultants, employees, agents and representatives shall not be deemed or construed to be employees of **OWNER** in any manner whatsoever. Except as otherwise provided in this Agreement, the **CONSULTANT** shall be acting as an independent contractor. The **CONSULTANT** shall not hold itself out as, nor claim to be, an officer or employee of **OWNER** by reason hereof and shall not make any claim, demand or application to or for any right or privilege applicable to an officer or employee of **OWNER**. The **CONSULTANT** shall be solely responsible for any claims for wages or compensation by **CONSULTANT'S** employees, agents and representatives, including consultants, and shall save and hold **OWNER** harmless therefrom.
- 6.3.3.** The parties hereto agree that causes of actions between the parties shall be governed by applicable provisions of the Kentucky Revised Statutes, and that venue of any legal action shall be a court of appropriate jurisdiction in Fayette County, Kentucky. The parties further agree that Kentucky law shall apply with respect to the interpretation of any provision of this Agreement.

6.4. Successors and Assigns

- 6.4.1.** **CONSULTANT** binds itself and its partners, successors, assigns and legal representatives to this Agreement. **CONSULTANT** shall not assign any interest in this Agreement without prior written consent of **OWNER**. **OWNER'S** consent shall not relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.
- 6.4.2.** **In no event shall** the **CONSULTANT** subcontract more than fifty percent (50%) of the work, based upon dollar value of the work.
- 6.4.3.** Nothing herein shall be construed to give any rights or benefits hereunder to anyone other than **OWNER** and **CONSULTANT**.

6.5. Disputes

Except as otherwise provided in this Agreement, any dispute hereunder may be resolved by agreement of the **OWNER'S** Agent (Section 8.1.1) and the **CONSULTANT**. In the absence of such an agreement, the dispute shall be submitted to the **OWNER'S** Commissioner, Department of Environmental Quality and Public Works, whose decision shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder, the **CONSULTANT** shall proceed diligently with the performance of the Agreement in accordance with the directions of the **OWNER**.

6.6. Accuracy of Consultant's Work

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job."

It is recommended that all of the provisions above quoted be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his workforce in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

LFUCG Non-Appropriation Clause

Contractor acknowledges that the LFUCG is a governmental entity, and the contract validity is based upon the availability of public funding under the authority of its statutory mandate.

In the event that public funds are unavailable and not appropriated for the performance of the LFUCG's obligations under this contract, then this contract shall automatically expire without penalty to the LFUCG thirty (30) days after written notice to Contractor of the unavailability and non-appropriation of public funds. It is expressly agreed that the LFUCG shall not activate this non-appropriation provision for its convenience or to circumvent the requirements of this contract, but only as an emergency fiscal measure during a substantial fiscal crisis, which affects generally its governmental operations.

In the event of a change in the LFUCG's statutory authority, mandate and mandated functions, by state and federal legislative or regulatory action, which adversely affects the LFUCG's authority to continue its obligations under this contract, then this contract shall automatically terminate without penalty to the LFUCG upon written notice to Contractor of such limitation or change in the LFUCG's legal authority.

Contention Process

Vendors who respond to this invitation have the right to file a notice of contention associated with the RFP process or to file a notice of appeal of the recommendation made by the Director of Central Purchasing resulting from this invitation.

Notice of contention with the RFP process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his/her contention with the RFP process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Central Purchasing shall promptly respond in writing findings as to the compliance with RFP processes. If, based on this review, a RFP process irregularity is deemed to have occurred the Director of Central Purchasing will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

CONSULTANT shall be required to perform this Agreement in accordance with the degree of ordinary and reasonable skill and care usually exercised by professional engineers prevailing at the time, place and under similar conditions as the services hereunder are rendered. **CONSULTANT** shall be responsible for the accuracy of all work, even though raw data, reports, Drawings and Specifications have been accepted by **OWNER**, and it shall make any necessary revisions or corrections resulting from its errors and/or omissions for no additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to **OWNER**, **CONSULTANT** has made an incontrovertible representation that the information is accurate within the appropriate standard of skill and care. Failure on the part of **CONSULTANT** to provide the expected level of accuracy may be grounds for **OWNER** to terminate this Agreement

6.7. Security Clause

The **CONSULTANT** certifies that he shall not at any time release or divulge any information concerning the services covered by this Agreement to any person or any public or private organization without prior approval of the **OWNER** unless otherwise required by law

6.8. Access to Records

The **CONSULTANT** and its sub-consultants shall maintain all books, documents, papers, and accounting records, and make such materials available at their respective offices at all reasonable times during the Agreement period and for three (3) years from the date of final payment under the Agreement for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for three (3) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future consultant Agreements.

6.9. Risk Management Provisions, Insurance and Indemnification

6.9.1. DEFINITIONS

The **CONSULTANT** understands and agrees that the Risk Management Provisions of this Agreement define the responsibilities of the **CONSULTANT** to the **OWNER**.

As used in these Risk Management Provisions, the terms “**CONSULTANT**” and “**OWNER**” shall be defined as follows:

- a. **CONSULTANT** means the consultant and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.
- b. **OWNER** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, assigns, volunteers, and successors in interest.

6.9.2. INDEMNIFICATION AND HOLD HARMLESS PROVISION

EXHIBIT C

Proposal of Engineering Services and Related Matters

- a. It is understood and agreed by the parties that **CONSULTANT** hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of **CONSULTANT** or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "**CONSULTANT**") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- b. **CONSULTANT** shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "**OWNER**") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by **CONSULTANT**'s performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the **CONSULTANT**; and (b) not caused solely by the active negligence or willful misconduct of **OWNER**.
- c. Notwithstanding, the foregoing, with respect to any professional services performed by **CONSULTANT** hereunder (and to the fullest extent permitted by law), **CONSULTANT** shall indemnify, save, hold harmless and defend **OWNER** from and against any and all liability, damages and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent arising out of, pertaining to or relating to the negligence, recklessness or willful misconduct of **CONSULTANT** in the performance of this agreement.
- d. In the event **OWNER** is alleged to be liable based upon the above, **CONSULTANT** shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by **OWNER**, which approval shall not be unreasonably withheld.
- e. These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- f. **OWNER** is a political subdivision of the Commonwealth of Kentucky. **CONSULTANT** acknowledges and agrees that **OWNER** is unable to provide indemnity or otherwise save, hold harmless, or defend the **CONSULTANT** in any manner.

6.9.3. DAMAGES RELATED TO NONPERFORMANCE OR DELAY BY CONSULTANT

In the event that **CONSULTANT'S** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **CONSULTANT** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney's fees.

6.9.4. FINANCIAL RESPONSIBILITY

The **CONSULTANT** understands and agrees that the **CONSULTANT** shall, prior to final acceptance of the **CONSULTANT'S** proposal and the commencement of any work; demonstrate the ability to assure compliance with the Indemnity Agreement and other provisions of this Agreement.

6.9.5. INSURANCE REQUIREMENTS

6.9.5.1. Required Insurance Coverage

CONSULTANT shall procure and maintain for the duration of this Agreement the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to **OWNER** in order to protect **OWNER** against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by **CONSULTANT**. The cost of such insurance shall be included in any proposal:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Professional Liability	\$1 million per occurrence, \$2 million aggregate
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. OWNER** shall be named as an additional insured in the General Liability Policy and

Commercial Automobile Liability Policy.

- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by **OWNER**.
- c. The General Liability Policy shall include Business Interruption coverage.
- d. The Contractor shall carry Builders Risk coverage at a level sufficient to cover the replacement cost of any equipment or machinery used at the work site, if applicable.
- e. The General Liability Policy shall include a Pollution Liability endorsement and/or Environmental Casualty coverage unless it is deemed not to apply by **OWNER**.
- f. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions), which shall include Business interruption coverage and this policy or endorsement shall include Environmental Casualty coverage for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by **OWNER**. (**OWNER** does not need to be named as additional insured).
- g. **OWNER** shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- h. The Professional Liability policy shall be maintained for a minimum of three years beyond the completion date of the project, to the extent commercially available. If not commercially available, **CONSULTANT** shall notify **OWNER** and obtain similar insurance that is commercially available and acceptable to **OWNER**.
- i. Said coverage shall be written by insurers acceptable to **OWNER** and shall be in a form acceptable to **OWNER**. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

6.9.5.2. Renewals

After insurance has been approved by **OWNER**, evidence of renewal of an expiring policy must be submitted to **OWNER**, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

6.9.5.3. Right to Review, Audit and Inspect

CONSULTANT understands and agrees that **OWNER** may review, audit and inspect any and all of **CONSULTANT'S** records and operations to insure compliance with these Insurance Requirements.

6.9.6. SAFETY AND LOSS CONTROL

CONSULTANT shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and **OWNER**.

6.9.7. DEFINITION OF DEFAULT

CONSULTANT understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default under this Agreement. **CONSULTANT** also agrees that **OWNER** may elect as its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging **CONSULTANT** for any such insurance premiums purchased, or suspending or terminating this Agreement.

SECTION 7 - EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Agreement, the **CONSULTANT** agrees as follows:

- 7.1. The **CONSULTANT** will not discriminate against any employee or application for employment because of race, color, religion, national origin, sex, age, or handicap. The **CONSULTANT** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, sex, age, or handicap. Such action shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeships. The **CONSULTANT** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.
- 7.2. The **CONSULTANT** will, in all solicitations or advertisements for employees placed by or on behalf of the **CONSULTANT**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age (between forty and seventy), or handicap.

SECTION 8 - SPECIAL PROVISIONS, EXHIBITS, AND SCHEDULES

- 8.1. This Agreement is subject to the following provisions.
 - 8.1.1. Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned Charles H. Martin, P.E., Director of the Division of Water Quality (the "**OWNER'S** Agent"), as the authorized agent of **OWNER**, to monitor, direct and review the performance of work of the **CONSULTANT**. Documents, data, reports, and all matters associated with carrying out this Agreement shall be addressed to the **OWNER'S** Agent or his designee. Questions by the **CONSULTANT** regarding interpretations of the terms, provisions and requirements under this Agreement shall be addressed

to the **OWNER'S** Agent or his designee. The **CONSULTANT** shall look only to the **OWNER'S** Agent or his designee for direction in its performance under this Agreement; no other direction shall be binding upon **OWNER**. **OWNER** shall respond to written requests by **CONSULTANT** within thirty (30) days.

- 8.2. This Agreement, together with the Incorporated Documents (Section 1.2) constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and **EXHIBITS A, B, C and D** and any related schedules or documents may only be amended, supplemented, modified or canceled by a duly executed written instrument.
- 8.3. **NO THIRD PARTY RIGHTS.** This agreement does not create a contractual relationship with or right of action in favor of a third party against either **OWNER** or **CONSULTANT**.
- 8.4. **UNENFORCEABLE TERMS/SURVIVABILITY.** If any term or provision of this Agreement shall be found to be illegal or unenforceable, this Agreement shall remain in full force and such term or provision shall be deemed stricken. The provisions of Section 6 of this Agreement shall survive its termination.
- 8.5. **NON-WAIVER.** The failure of either party to enforce any right reserved to it in this Agreement shall not be a waiver of any such right to which the party is entitled.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

OWNER:
LEXINGTON-FAYETTE URBAN
COUNTY GOVERNMENT

CONSULTANT:
TETRA TECH, INC.

BY: *Linda Gorton*
LINDA GORTON, MAYOR

BY: *Richard W. Walker*

ATTEST:

Markemzii Semmons
Deputy URBAN COUNTY COUNCIL CLERK

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF FAYETTE)

The foregoing Agreement was subscribed, sworn to and acknowledged before me by *Richard W. Walker*, as the duly authorized representative for and on behalf of *Tetra Tech, Inc* on this the *23rd* day of *April*, 2020.

My commission expires: *My Commission Expires May 22, 2020*
ID# 554195

Mary L. Montz
NOTARY PUBLIC

EXHIBIT A

MS4 Program Manager

RFP #8-2020

EXHIBIT B

Certificate of Insurance

and

Evidence of Insurability

EXHIBIT D

Task Order Agreement Form

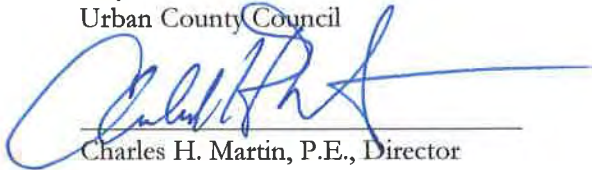
MAYOR LINDA GORTON



LEXINGTON

CHARLES H. MARTIN, P.E.
DIRECTOR
WATER QUALITY

TO: Mayor Linda Gorton
Urban County Council

FROM: 
Charles H. Martin, P.E., Director
Division of Water Quality

DATE: April 23, 2020

SUBJECT: Request approval of Consultant Services Contract Agreement with Tetra Tech, Inc. for Municipal Separate Storm Sewer System (MS4) Program Management Services

Request

The approval of a Consultant Services Contract Agreement with Tetra Tech, Inc. for Municipal Separate Storm Sewer System (MS4) Program Management Services.

Why are you requesting?

LFUCG requires ongoing assistance in the implementation of portions of the Consent Decree related to the Stormwater Quality Management Program (SWQMP) and the MS4 Permit issued to LFUCG by the Kentucky Division of Water. Tetra Tech, Inc. was one of two respondents to RFP #8-2020 and they were the lowest cost submitter. As with previous annual program management services agreements, the scope of services in the RFP provides for up to four (4) additional 365-day periods upon mutual agreement by all parties. The specific scope of services associated with these deliverables will be formalized via a series of written task orders, thus the budgeted funds are a not-to-exceed amount for each year of the contract.

What is the cost in this budget year and future budget years?

The cost for FY20 is \$816,000.00. The cost for FY21 - FY24 is projected to be \$816,000 per year.

Are the funds budgeted?

Yes, funds are budgeted and are available here:

FUND	DEPT ID	SECTION	ACCOUNT	REF	NAME
4052	303204	3373	71205	2020	MS4_PM CONSENT_DE

Director/Commissioner: Martin/Albright



EXHIBIT A

MS4 Program Manager

RFP #8-2020



Lexington-Fayette Urban County Government

Request for Proposals

The Lexington-Fayette Urban County Government hereby requests proposals for **RFP #8-2020 MS4 Program Manager** to be provided in accordance with terms, conditions and specifications established herein. Proposals are to be submitted electronically and uploaded into the IONWAVE system by Friday **April 10, 2020 by 2:00 p.m. eastern standard time.**

Proposals received electronically after the date and time set for opening proposals will not be considered. It is the sole responsibility of the Proposer to assure that his/her proposal is submitted online by the date and time set for proposal submittal deadline.

Due to the current environment and recommendations for social distancing, LFUCG will only be accepting proposals on-line through Ion Wave for this solicitation. All forms normally provided with proposal submission should be downloaded from Ion Wave, filled out, notarized if required* and attached with the proposal submission. THESE INSTRUCTIONS SUPERCEDE ALL OTHER PROPOSAL SUBMISSION INSTRUCTIONS PROVIDED IN THIS PACKAGE. PLEASE SUBMIT ALL QUESTIONS VIA THE Q&A MODULE ON ION WAVE.

RFP #8-2020 MS4 Program Manager

Proposals, once submitted, may not be withdrawn for a period of ninety (90) calendar days.

The Proposer must submit one (1) electronic version in PDF format online.

The Lexington-Fayette Urban County Government reserves the right to reject any or all proposals, and to waive technicalities and informalities when such waiver is determined by the Lexington-Fayette Urban County Government to be in its best interest.

Signature of this proposal by the Proposer constitutes acceptance by the Proposer of terms, conditions and requirements set forth herein.

Minor exceptions may not eliminate the proposal. Any exceptions to the specifications established herein shall be listed in detail on a separate sheet and attached hereto. The Lexington-Fayette Urban County Government shall determine whether any exception is minor.

The Lexington-Fayette Urban County Government encourages the participation of minority- and women-owned businesses in Lexington-Fayette Urban County Government contracts. This proposal is subject to Affirmative Action requirements attached hereto.

Please do not contact any LFUCG staff member or any other person involved in the selection process other than the designated contact person(s) regarding the project contemplated under this RFP while this RFP is open and a selection has not been finalized. Any attempt to do so may result in disqualification of the firm's submittal for consideration.

Laws and Regulations

All applicable state laws, municipal ordinances and regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.

Equal Employment Opportunity

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

Kentucky Equal Employment Opportunity Act

The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any "county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

"During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin;

(2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, or national origin;

(3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provision of the nondiscrimination clauses required by this section; and

(4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses."

The Act further provides:

"KRS 45.610. Hiring minorities -- Information required

(1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetables.

(2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.

KRS 45.620. Action against contractor -- Hiring of minority contractor or subcontractor

(1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.

(2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.

(3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630 Termination of existing employee not required, when

Notice of appeal of a RFP recommendation must be filed within 3 business days of the RFP recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Central Purchasing or (2) submitting a written request for a meeting with the Director of Central Purchasing to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Central Purchasing shall in writing, affirm or withdraw the recommendation.

SELECTION CRITERIA: Are outlined in another section.

Proposals shall contain the appropriate information necessary to evaluate based on these criteria. A committee composed of government employees as well as representatives of relevant user groups will evaluate the proposals.

Questions shall be submitted via IonWave at: <https://lexingtonky.ionwave.net>

Affirmative Action Plan

All vendors must submit as a part of the proposal package the following items to the Urban County Government:

1. Affirmative Action Plan for his/her firm;
2. Current Work Force Analysis Form;

Failure to submit these items as required may result in disqualification of the submitter from award of the contract. All submissions should be directed to:

Director, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor
Lexington, Kentucky 40507

All questions regarding this proposal must be directed to the Division of Central Purchasing, (859)-258-3320.

AFFIDAVIT

Comes the Affiant, _____, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is _____ and he/she is the individual submitting the _____ proposal or is the _____ authorized representative of _____, the entity submitting the proposal (hereinafter referred to as "Proposer").
2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.
6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

Continued on next page

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

STATE OF _____

COUNTY OF _____

The foregoing instrument was subscribed, sworn to and acknowledged before me

by _____ on this the _____ day

of _____, 20__.

My Commission expires: _____

NOTARY PUBLIC, STATE AT LARGE

EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Proposers

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.

Signature

Name of Business

WORKFORCE ANALYSIS FORM

Name of Organization: _____

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective																	
Para-																	
Office/Clerical																	
Skilled Craft																	
Service/Maintena																	
Total:																	

Prepared by: _____ **Date:** ____/____/____

(Name and Title)

Revised 2015-Dec-15

**DIRECTOR, DIVISION OF CENTRAL PURCHASING
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 EAST MAIN STREET
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT
OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs. The Lexington Fayette Urban County Government also has set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-owned Small Businesses. The goal for the utilization of Disadvantaged Business Enterprises as well Veteran –owned Small Businesses as subcontractors is a recommended goal. Contractor(s) who fail to meet such goal will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

Sherita Miller, MPA, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

Firm Submitting Proposal: _____

Complete Address: _____
Street City Zip

Contact Name: _____ Title: _____

Telephone Number: _____ Fax Number: _____

Email address: _____

Lexington-Fayette Urban County Government
MWDBE PARTICIPATION GOALS

A. GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
 - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.
- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially disadvantaged.
- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:

- a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
- b. Included documentation of advertising in the above publications with the bidders good faith efforts package
- c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event
- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWBDE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- d. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- e. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWBDE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.



MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA
Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long term economic viability of Lexington-Fayette Urban County Government.

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

Certified Disadvantaged Business Enterprise (DBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as defined by 49 CFR subpart 26.

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/Pacific Islander, Hispanic Islander, Native American/Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

Certified Women Business Enterprise (WBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

Certified Veteran-Owned Small Business (VOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

Certified Service Disabled Veteran Owned Small Business (SDVOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in <https://lexingtonky.ionwave.net>

Business	Contact	Email Address	Phone
LFUCG	Sherita Miller	smiller@lexingtonky.gov	859-258-3323
Commerce Lexington – Minority Business Development	Tyrone Tyra	ttyra@commercelexington.com	859-226-1625
Tri-State Minority Supplier Diversity Council	Susan Marston	smarston@tsmsdc.com	502-365-9762
Small Business Development Council	Shawn Rogers UK SBDC	shawn.rogers@uky.edu	859-257-7666
Community Ventures Corporation	Phyllis Alcorn	palcorn@cvky.org	859-231-0054
KY Transportation Cabinet (KYTC)	Melvin Byne	Melvin.bynes2@ky.gov	502-564-3601
KYTC Pre-Qualification	Shella Eagle	Shella.Eagle@ky.gov	502-782-4815
Ohio River Valley Women's Business Council (WBENC)	Sheila Mixon	smixon@orvwbc.org	513-487-6537
Kentucky MWBE Certification Program	Yvette Smith, Kentucky Finance Cabinet	Yvette.Smith@ky.gov	502-564-8099
National Women Business Owner's Council (NWBOC)	Janet Harris-Lange	janet@nwboc.org	800-675-5066
Small Business Administration	Robert Coffey	robertcoffey@sba.gov	502-582-5971
LaVoz de Kentucky	Andres Cruz	lavozdeky@yahoo.com	859-621-2106
The Key News Journal	Patrice Muhammad	production@keynewsjournal.com	859-685-8488



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # _____

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference # _____

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # _____

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Company Representative

Date

Title



LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # _____

Total Contract Amount Awarded to Prime Contractor for this Project _____

Project Name/ Contract #	Work Period/ From: _____ To: _____
Company Name:	Address: _____
Federal Tax ID:	Contact Person: _____

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # _____

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

_____ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items

into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

_____ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE **and Veteran participation.**

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Date

Company Representative

Title

GENERAL PROVISIONS

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, 29 U.S.C. 650 *et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
8. Bribery Clause: By his/her signature on the proposer, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Proposal Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

A. Termination for Cause

- (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
- (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
- (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
 - (a) Failure to perform the contract according to its terms, conditions and specifications;
 - (b) Failure to make delivery within the time specified or according

- to a delivery schedule fixed by the contract;
- (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
- (d) Failure to diligently advance the work under a contract for construction services;
- (e) The filing of a bankruptcy petition by or against the contractor; or
- (f) Actions that endanger the health, safety or welfare of the LFUCG or its citizens.

B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. **Assignment of Contract:** The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. **No Waiver:** No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. **Authority to do Business:** The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must

be signed by a duly authorized officer, agent or employee of the Respondent.

16. **Governing Law:** This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
17. **Ability to Meet Obligations:** Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
18. Proposer understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Proposer is an independent contractor at all times during the performance of the services specified.
19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.
20. Proposer [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Proposer agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

Signature

Date

Municipal Separate Storm Sewer System (MS4) Annual Program Management Services

Scope of Engineering Services

The Lexington-Fayette Urban County Government (LFUCG) is accepting proposals from interested consulting engineering firms to assist LFUCG in the implementation of portions of the Consent Decree related to the Stormwater Quality Management Program (SWQMP) and the Municipal Separate Storm Sewer System (MS4) Permit KYS000002 issued to LFUCG. Information about and copies of the Federal Consent Decree, its appendices / attachments, and the MS4 Permit are available on Lexington's website (<http://www.lexingtonky.gov>).

General Project Description

The successful firm or team (*i.e.*, Consultant) shall perform professional services as hereinafter stated which include technical writing; reporting; program development/management; assisting, if requested, with public strategy, training, presentations, and partnering workshops; and water quality monitoring and analysis services as related to implementing LFUCG's Consent Decree and MS4 Permit. The primary goal of the MS4 Program Manager is to provide LFUCG with the technical support necessary to successfully meet the obligations of the stormwater provisions contained in the Consent Decree and MS4 Permit.

Contract Term

The Consultant will be awarded a 365-day contract for work associated with the implementation of the stormwater provisions contained in the Consent Decree, the MS4 Permit, and other compliance-related activities. Annual renewal, up to four (4) additional 365-day periods, may occur upon mutual agreement by all parties.

Scope of Services

The primary program management services to be provided are:

1. Civil engineering, program management, and scheduling necessary to meet the obligations and deadlines associated with the Consent Decree (CD) and its attachments / appendices related to obligations of the SWQMP and Kentucky Pollutant Discharge Elimination System (KDPEs) MS4 Permit. A reassessment and refinement of the critical path SWQMP implementation schedule in the context of the Consent Decree and the pending reissuance of the LFUCG MS4 Permit will likely be one of the first deliverables associated with this scope of services.
2. Assistance with updating the SWQMP document (dated June 1, 2016) once the next permit cycle begins to better reflect the goals and objectives of LFUCG's MS4 program.
3. Critical review and modification, if necessary, of LFUCG ordinances, guidance documents, policies, and procedures related to LFUCG's MS4 program.
4. Oversight and implementation of the water quality monitoring and assessment program required by the MS4 Permit consistent with the Consent Decree. Services may include sampling site selection, field services, laboratory analyses, data evaluations, etc. for the Water Quality Monitoring Program Elements. Monitoring

requirements include dry weather, wet weather, BMPs, outfalls, streams, macroinvertebrates, fish, and habitat.

5. Preparation / completion of required stormwater compliance input / submittals for quarterly, annual, or any other reports requested as required by the CD and/or MS4 Permit provided in a Word or Excel format to allow modification by LFUCG.
6. Preparation for and attendance at inspections of the MS4 program by KDOW and/or EPA.
7. Assistance with the KPDES permit reapplication and negotiation, as well as general coordination which may be necessary with KDOW.
8. Assistance with preparing the request for termination from the Compliance Measures Relating to Storm Sewer System section of the Consent Decree, if and when deemed appropriate.
9. Hands-on technical assistance for implementing obligations of LFUCG's KPDES MS4 Permit and the associated SWQMP per the Consent Decree.
10. Establishment and maintenance of a shared project documentation database, if requested.
11. Coordination with other staff and firms engaged in other elements or programs of the CD.
12. Attendance at pre-bid and pre-construction meetings for Remedial Measures Program (RMP) projects, Sanitary Sewer Non-RMP projects, and Stormwater Capital Construction projects. At each meeting, the Consultant will provide an overview of LFUCG's expectations and procedures for Permitting, Inspecting, and Enforcement of construction sites as it pertains to Erosion and Sediment Control (ESC), including ESC Plans, Stormwater Pollution Prevention Plans, Land Disturbance Permits, and the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Discharges Associated with Construction Activities (KYR10 Permit).
13. Other, as needed, civil, sanitary, electrical, mechanical, water quality, and geotechnical engineering services necessary for compliance-driven activities.

Due to the uncertainty associated with implementing a comprehensive program containing the complexity of the stormwater provisions of the Consent Decree, all work associated with this RFP will be assigned via written Task Order. The Consultant will be required to submit task-specific draft Task Orders and an estimated fee for each Task Order to LFUCG's MS4 Coordinator, who will direct the Consultant in completing any edits necessary to obtain final approval. Written approval from the Division of Water Quality Director must be received prior to initiating work associated with a Task Order. Written Task Order approval will include the assignment of a specific LFUCG Project Manager who will act as the primary LFUCG contact for completing the Task Order. Under no circumstances should changes in Task Order scope or estimated fee occur without prior, written approval from the Director of the Division of Water Quality.

In the past, typical task orders have covered: 1. General Program Management and Meetings, 2. MS4 Permit Technical Support, 3. MS4 Permit Monitoring, 4. Watershed-Focused Monitoring Implementation, and 5. Technical Assistance with Unique and/or Environmentally Sensitive Issues.

The Consultant may incur financial penalty in the event that deliverable deadlines contained in a written Task Order are missed as outlined in the attached Consent Decree Engineering Services Agreement. The Consent Decree Engineering Services Agreement will be used to contract with the successful consultant.

NOTE: Proposers should review LFUCG's Federal Consent Decree and its associated attachments / appendices, as well as Lexington's current MS4 Permit dated May 1, 2015, and SWQMP dated June 1, 2016, to fully understand the significance of deliverable deadlines contained in the Consent Decree and the MS4 Permit. The Consent Decree and associated documents may be found at <https://www.lexingtonky.gov/public-document-repository>; the MS4 Permit and SWQMP may be found at <https://www.lexingtonky.gov/stormwater>.

Attendance at Frequent Progress / Implementation Meetings

The Consultant shall be available to attend a wide variety of program implementation and program coordination meetings at designated times and designated sites determined by LFUCG – which may include a monthly progress meeting to be facilitated by the Consultant, including the development of an agenda and minutes.

Method of Invoice and Payment

The Consultant may submit monthly invoices for basic services or work rendered, based upon the Consultant's estimate of the portion of the specific Task Order actually completed during the billing cycle. Each invoice shall be accompanied by a breakdown of hours attributed to each Task Order, as well as a progress report summarizing the work completed on each Task Order. The LFUCG Project Manager assigned to the Task Order shall respond to the invoice within thirty days, either denying or approving payment. Specific project timesheets and other payroll information may be subject to reviews and audits by LFUCG.

Selection Criteria

Firms or teams shall submit one (1) electronic version in PDF format uploaded into the LFUCG IONWAVE system by the deadline. The proposal shall include a Letter of Transmittal, along with dividers for each of the seven selection criteria listed below. An eighth divider may be used for the forms and signed affidavit required by this RFP. The selection criteria and points allocated to each criterion are as follows:

1. Estimated Cost of Services (20 pts): Submitted schedule of hourly rates in effect for the duration of the contract for all job titles and all employees of the Consultant who are expected to bill hours to any task described in the scope of services. Submitted schedule of laboratory fees for the analytes listed in the current MS4 Permit. (The final contract price will be negotiated and determined after refinement of the scope in the initial scoping meetings.)
2. Specialized Experience and Technical Competence (15 pts): Proven experience and competence of the persons or firm(s) (including a joint venture or association) with the type of service requested. The proposal should clearly identify the person(s) to serve as Project / Program Manager, as well as the Principal Project Engineer(s).
3. Demonstrated Capacity of the Person or Firm To Perform the Work (15 pts): Demonstrated capacity of the person or firm(s) to perform the work, including any specialized services, within the time limitations.

4. Past Record and Performance (15 pts): Past record and performance on contracts with the Lexington-Fayette Urban County Government or with other governmental agencies and private industry with respect to such factors as control of cost, quality of work, and ability to meet schedules.
5. Familiarity with the Details of the Project (20 pts): Familiarity with the details of the project, including Lexington's Federal Consent Decree, KPDES Phase I MS4 Permit, and SWQMP.
6. Degree of Local Employment (15pts): Degree of local employment to be provided by the person, firm, or team in the performance of the contract. Local employment shall be defined as being located in the counties served by the Bluegrass Area Development District (see BGADD.org for a complete list).

Miscellaneous

1. All plans, specifications, and accompanying documents developed as part of this scope or associated, future Task Orders are subject to review by the applicable departments and divisions of Lexington-Fayette Urban County Government. The Consultant shall be responsible for incorporating the comments and requirements of the departments and divisions into all documents.
2. Any data collection or data transfers associated with this project shall be compatible with existing Geographic Information System parameters used by the Urban County Government. Access Database formats will be provided.
3. The original file formats of any documents developed by the Consultant associated with this contract shall be made available to LFUCG upon request and shall become the property of LFUCG.
4. Regarding hourly rates: The Consultant shall invoice by hourly rates only; no multipliers allowed.
5. Regarding expenses: The Consultant shall not invoice for incidental expenses, such as mileage for travel to meetings within the geographic area of the Bluegrass Area Development District, meals, office supplies, printing, postage, etc.; however, with prior authorization provided by the LFUCG Project Manager, mailing expenses for official documents to the state and federal government on behalf of LFUCG, as well as mileage for special LFUCG programs / initiatives will be allowed.
6. Brian Marcum, Division of Central Purchasing, is the designated contact person for all questions regarding this Scope of Engineering Services. Contact with any city staff member involved in the selection process other than Mr. Marcum, prior to the issuance of notice of award, is prohibited. Any attempt to discuss this RFQ with city employees other than Mr. Marcum may result in disqualification of the firm's proposal for consideration.

Following Pages are the Risk Management Provisions, the draft Consent Decree Engineering Services Agreement and a draft Task Order Form.

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Consultant hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Consultant or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "Consultant") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) Consultant shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by Consultant's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the Consultant; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) Notwithstanding, the foregoing, with respect to any professional services performed by Consultant hereunder (and to the fullest extent permitted by law), Consultant shall indemnify, save, hold harmless and defend LFUCG from and against any and all liability, damages and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent arising out of, pertaining to or relating to the negligence, recklessness or willful misconduct of Consultant in the performance of this agreement.
- (4) In the event LFUCG is alleged to be liable based upon the above, Consultant shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (5) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (6) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONSULTANT acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONSULTANT in any manner.

FINANCIAL RESPONSIBILITY

CONSULTANT understands and agrees that it shall, prior to final acceptance of its proposal and the commencement of any work or services, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

CONSULTANT shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work or services hereunder by CONSULTANT. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Professional Liability	\$1 million per occurrence, \$2 million aggregate
Worker's Compensation	Statutory
Commercial Automobile Liability	\$1,000,000 per occurrence
Employer's Liability	\$500,000

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky. LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement and a Products Liability endorsement unless they are deemed not to apply by LFUCG.
- d. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions) for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by LFUCG.
- e. The Professional Liability policy shall be maintained for a minimum of three years beyond the completion date of the project, to the extent commercially available. If not commercially available, CONSULTANT shall notify LFUCG and obtain similar insurance that is commercially available and acceptable to LFUCG.

- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of CONSULTANT's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If CONSULTANT satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, CONSULTANT agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

CONSULTANT shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

CONSULTANT agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONSULANT understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

CONSULTANT understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging CONSULTANT for any such insurance premiums purchased, or suspending or terminating the work.

00471865

ENGINEERING SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of _____, 2020, between the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**, an urban county government of the Commonwealth of Kentucky pursuant to KRS Chapter 67A ("**OWNER**") and _____ with offices located at _____ ("**CONSULTANT**"). **OWNER** intends to proceed with the _____ as described in the attached **EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #XX-2020 (the "**PROJECT**"). The **CONSULTANT** shall perform professional engineering services and deliverables as described in **EXHIBIT A** which include customary master planning, civil, geotechnical, electrical, mechanical, structural, programming, water quality and sanitary engineering services as related to providing the deliverables specific to this agreement—that will assist the **OWNER** in successfully implementing the **PROJECT** and complying with any requirements which are related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the "**CONSENT DECREE**"). The services are hereinafter referred to as the **PROJECT**. **The primary goal of the PROJECT is to provide the OWNER with the technical support necessary to successfully meet the obligations and deadlines of the CONSENT DECREE.** **OWNER** and **CONSULTANT** in consideration of their mutual covenants herein agree in respect of the performance of professional engineering services by **CONSULTANT** and the payment for those services by **OWNER** as set forth below.

CONSULTANT shall provide professional consulting services for **OWNER** in all phases of the **PROJECT** to which this Agreement applies, serve as **OWNER'S** professional engineering representative for the **PROJECT** as set forth below and shall give professional consultation and advice to **OWNER** during the performance of services hereunder.

SECTION 1 - BASIC SERVICES OF CONSULTANT

1.1. General

CONSULTANT shall perform professional services as hereinafter stated that include customary civil, geotechnical, structural, mechanical, electrical and sanitary engineering services incidental thereto.

1.2. Incorporated Documents

The following documents are incorporated by reference as part of this Agreement:

1. The **CONSENT DECREE**, as may be amended, including all appendices.
2. **EXHIBIT A** – Scope of Engineering Services and Related Matters RFP #XX-2020 (Including Addendums).
3. **EXHIBIT B** – Certificate of Insurance and Evidence of Insurability.
4. **EXHIBIT C** – Proposal of Engineering Services and Related Matters (the **CONSULTANT's** response to RFP #XX-2020).

5. **EXHIBIT D – Further Description of Basic Engineering Services and Related Matters.**

To the extent of any conflict among the provisions of these documents and/or this Agreement, the provisions of this Agreement shall control, followed by the provisions of **EXHIBIT A**, then **EXHIBIT D**, and then **EXHIBIT C**.

1.3 Project Phase

A complete description of the duties and responsibilities of the **CONSULTANT** are as indicated in **EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #XX-2020, **EXHIBIT C** Proposal of Engineering Services and Related Matters, and **Exhibit D** Further Description of Basic Engineering Services and Related Matters. After written authorization to proceed from the **OWNER**, **CONSULTANT** shall:

- 1.3.1. Notify the **OWNER** in writing of its authorized representative who shall act as Project Engineer and liaison representative between the **CONSULTANT** and the **OWNER**. **OWNER** has the right to approve the Project Engineer, or any change thereto, which approval shall not be unreasonably withheld.
- 1.3.2. The **CONSULTANT** **must perform all duties necessary to fully complete the deliverables as further described in attached EXHIBIT A**, Scope of Engineering Services and Related Matters RFP #XX-2020, attached **EXHIBIT C**, Proposal of Engineering Services and Related Matters, and attached **EXHIBIT D** Further Description of Basic Engineering Services and Related Matters **unless otherwise agreed to in writing by the parties**.
- 1.3.3. The **CONSULTANT** shall provide written documentation of all meetings and be responsible for incorporating all comments and changes resulting therefrom in final work product.
- 1.3.4. The **CONSULTANT** shall submit five (5) copies (hardcover) of all initial draft final work products for this **PROJECT** unless otherwise described in Exhibit A. The copies of the initial draft final reports are submitted for review and comment by the **OWNER**, and should be presented in person to the **OWNER**.
- 1.3.5. After the **OWNER'S** detailed review, the **CONSULTANT** will revise the initial draft final for all work products for this **PROJECT**, and the **CONSULTANT** shall submit five (5) copies (hardcover) unless otherwise described in Exhibit A. One electronic copy of the all work products for this **PROJECT**, including all appendices, shall be provided and prepared in such a manner that it can readily be converted to a quick-link accessible form for the **OWNER'S** Website. The **OWNER** shall have ten (10) business days within which to accept or deny each such final draft. If it is denied, the **OWNER** shall provide a detailed explanation in writing for the basis of such denial. Once the **OWNER** accepts the draft as final, a total of ten (10) final copies (hardcover) are required in addition to an electronic copy unless otherwise described in Exhibit A.
- 1.3.6. Immediately notify **OWNER** of any delay in the delivery of a work product or deliverable, regardless of cause. Give written notice to **OWNER** within five (5) business days whenever **CONSULTANT** observes or otherwise becomes aware of

- i. Said coverage shall be written by insurers acceptable to **OWNER** and shall be in a form acceptable to **OWNER**. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

6.9.5.2. Renewals

After insurance has been approved by **OWNER**, evidence of renewal of an expiring policy must be submitted to **OWNER**, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

6.9.5.3. Right to Review, Audit and Inspect

CONSULTANT understands and agrees that **OWNER** may review, audit and inspect any and all of **CONSULTANT'S** records and operations to insure compliance with these Insurance Requirements.

6.9.6. SAFETY AND LOSS CONTROL

CONSULTANT shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and **OWNER**.

6.9.7. DEFINITION OF DEFAULT

CONSULTANT understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default under this Agreement. **CONSULTANT** also agrees that **OWNER** may elect as its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging **CONSULTANT** for any such insurance premiums purchased, or suspending or terminating this Agreement.

SECTION 7 - EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Agreement, the **CONSULTANT** agrees as follows:

- 7.1. The **CONSULTANT** will not discriminate against any employee or application for employment because of race, color, religion, national origin, sex, age, or handicap. The **CONSULTANT** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, sex, age, or handicap. Such action shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and

any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of Contractor(s).

SECTION 2 - EXTRA WORK BY CONSULTANT

- 2.1. The **OWNER** may desire to have the **CONSULTANT** perform work or render services in connection with this **PROJECT** other than provided by the expressed intent of this Agreement. Such work shall be considered as Extra Work, subject to a change order, supplemental to this Agreement, setting forth the character and scope thereof and the compensation therefore. Work under such change order shall not proceed until the **OWNER** gives written authorization. Should the **OWNER** find it desirable to have previously satisfactorily completed and accepted plans or parts thereof revised, the **CONSULTANT** shall make such revisions as directed, in writing, by the **OWNER**. This work shall be considered as Extra Work and shall be paid as such.
- 2.2. All Extra Work is subject to prior written authorization of **OWNER** and necessary appropriations made by the Urban County Council.

SECTION 3 - OWNER'S RESPONSIBILITIES

OWNER shall:

- 3.1. Provide criteria and information as to **OWNER'S** requirements for the **PROJECT**, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations.
- 3.2. Assist **CONSULTANT** by placing at his disposal available information pertinent to the Project.
- 3.3. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by **CONSULTANT**, and provide written approval or disapproval thereof within a reasonable time so as not to delay the services of **CONSULTANT**.
- 3.4. Designate in writing a person to act as **OWNER'S** representative agent with respect to the services to be rendered under this Agreement (see Section 8.1.1.). Such person shall have complete authority to transmit instructions, receive information, interpret, and define **OWNER'S** policies and decisions with respect to materials, equipment, elements, and systems pertinent to **CONSULTANT'S** services.
- 3.5. Give written notice to **CONSULTANT** whenever **OWNER** observes or otherwise becomes aware of any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of **CONSULTANT**.
- 3.6. Furnish or direct **CONSULTANT** to provide, Extra Work as stipulated in Section Two (2) of this Agreement or other services as required.

SECTION 4 - PERIOD OF SERVICES

- 4.1. Time is of the essence in the performance of this Agreement. **CONSULTANT** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines. See attached **EXHIBIT A** for the overall current project schedule.
- 4.2. The provisions of this Section Four (4) and the various rates of compensation for **CONSULTANT'S** services provided for elsewhere in this Agreement have been agreed to

in anticipation of the orderly and continuous progress of the **PROJECT** through completion.

- 4.3.** If a delay results from the acts of **OWNER** or another entity that is required to permit or approve the work or services, an extension of time for such delay will be considered by **OWNER**.

4.3.1. If the above type of delay occurs and **CONSULTANT** wants an extension of time, it must, within ten (10) days from the date of the delay, apply in writing to **OWNER** for an extension of time for a reasonable period, which must be agreed upon by **OWNER**.

4.3.2. If the extension of time is approved by **OWNER**, the **PROJECT** schedule shall be revised to reflect the extension. Such extension of time to the completion date shall in no way be construed to operate as a waiver on the part of **OWNER** of any of its other rights in the Agreement.

4.3.3. If the above type of delay would prevent complete performance of the **PROJECT** within sixty (60) days of the time specified therein, **OWNER** shall have the option of cancelling the **PROJECT** or otherwise adjusting the scope of the services or work.

4.3.4. If the parties cannot mutually agree to an extension of time or an adjustment, Section 6.5 under "DISPUTES" of this Agreement shall apply.

- 4.4.** If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. Section 6.5 of this Agreement (**Disputes**), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will attempt to resolve the delay.

SECTION 5 - PAYMENTS TO CONSULTANT

5.1. Methods of Payment for Services of CONSULTANT.

5.1.1. For Basic Services

OWNER shall issue individual task orders for each work assignment performed under this Agreement by **CONSULTANT** or its sub-consultant/s. Each task order shall contain scope of work, fee, and schedule for performance of the work. Individual task orders shall be of the form included in **EXHIBIT D**.

5.1.1.a Fee payable to **CONSULTANT** under individual task order shall be developed using hourly rates included in **EXHIBIT D** or as amended in accordance with provisions therein.

5.1.1.b Terms of payment to **CONSULTANT** shall be specified in each task order. For assignments with defined scope, lump sum task orders shall be issued. Otherwise, task orders shall include time and materials payment terms.

5.1.1.c Each task order issued shall receive prior written approval of **OWNER** prior to **CONSULTANT** proceeding with said work. The **OWNER's** designated agent in Section 8.1.1. shall be the only person authorized to provide such approval.

5.1.2. For Extra Work

Extra Work shall be paid for by the **OWNER** on the basis of a fixed fee, the amount of which shall be determined by negotiation. The **OWNER** shall have the right to negotiate alternate methods of payment for Extra Work if the **OWNER** determines that the fixed fee basis is not feasible. In the event the **OWNER** and the **CONSULTANT** are unable to agree upon the amount of payment for Extra Work, then the amount of such payment shall be determined pursuant to Section 6.5 (**Disputes**).

5.2. Times of Payment

5.2.1 **CONSULTANT** shall submit to **OWNER** detailed monthly statements for Basic Services and Extra Work rendered. The Statements will be based upon **CONSULTANT'S** estimate of the proportion of the total services actually completed at the time of billing. **OWNER** shall respond to **CONSULTANT'S** monthly statements within thirty (30) days, either denying payment or making payment.

5.3. Other Provisions Concerning Payments

5.3.1. In the event the Agreement is terminated by the **OWNER** without fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid for the work performed or services rendered for which it has not already been paid in an amount bearing the same ratio to the total Agreement fee as the amount of work completed or partially completed and delivered to the **OWNER** is to the total amount of work provided for herein, as determined by mutual agreement between the **OWNER** and the **CONSULTANT**.

5.3.2. In the event the services of the **CONSULTANT** are terminated by the **OWNER** for fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid reasonable value of the work performed or services rendered and delivered for which it has not already been paid, and the amount to be paid shall be determined by the **OWNER**.

SECTION 6 - GENERAL CONSIDERATIONS

6.1. Termination

6.1.1. **CONSULTANT** may only terminate this Agreement due to **OWNER'S** material breach of the terms hereof which breach causes **CONSULTANT** to be

unable to perform its duties and responsibilities under this Agreement and upon forty-five (45) days written advance notice to **OWNER**.

- 6.1.2.** The **OWNER** may terminate this Agreement for cause upon seven (7) business days written advance notice to the **CONSULTANT**. The **OWNER** reserves the right to terminate the Agreement for any reason whatsoever, with or without cause, at any time upon thirty (30) days written advance notice to the **CONSULTANT**.

6.2. Ownership and Reuse of Documents

All documents, including raw data, reports, drawings and specifications, prepared by the **CONSULTANT** pursuant to this Agreement shall be delivered to and become the property of the **OWNER**. The **OWNER** shall have the right to reuse same without restriction or limitation, but without liability or legal exposure to **CONSULTANT**.

6.3. Legal Responsibilities and Legal Relations

- 6.3.1.** The **CONSULTANT** shall familiarize itself with and shall at all times comply with the **CONSENT DECREE** and all federal, state, and local laws, ordinances, and regulations that in any manner affect the services of this Agreement.
- 6.3.2.** In performing the services hereunder, the **CONSULTANT** and its consultants, employees, agents and representatives shall not be deemed or construed to be employees of **OWNER** in any manner whatsoever. Except as otherwise provided in this Agreement, the **CONSULTANT** shall be acting as an independent contractor. The **CONSULTANT** shall not hold itself out as, nor claim to be, an officer or employee of **OWNER** by reason hereof and shall not make any claim, demand or application to or for any right or privilege applicable to an officer or employee of **OWNER**. The **CONSULTANT** shall be solely responsible for any claims for wages or compensation by **CONSULTANT'S** employees, agents and representatives, including consultants, and shall save and hold **OWNER** harmless therefrom.
- 6.3.3.** The parties hereto agree that causes of actions between the parties shall be governed by applicable provisions of the Kentucky Revised Statutes, and that venue of any legal action shall be a court of appropriate jurisdiction in Fayette County, Kentucky. The parties further agree that Kentucky law shall apply with respect to the interpretation of any provision of this Agreement.

6.4. Successors and Assigns

- 6.4.1.** **CONSULTANT** binds itself and its partners, successors, assigns and legal representatives to this Agreement. **CONSULTANT** shall not assign any interest in this Agreement without prior written consent of **OWNER**. **OWNER'S** consent shall not relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.
- 6.4.2.** **In no event shall the CONSULTANT subcontract more than fifty percent (50%) of the work, based upon dollar value of the work.**

6.4.3. Nothing herein shall be construed to give any rights or benefits hereunder to anyone other than **OWNER** and **CONSULTANT**.

6.5. Disputes

Except as otherwise provided in this Agreement, any dispute hereunder may be resolved by agreement of the **OWNER'S** Agent (Section 8.1.1) and the **CONSULTANT**. In the absence of such an agreement, the dispute shall be submitted to the **OWNER'S** Commissioner, Department of Environmental Quality, whose decision shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder, the **CONSULTANT** shall proceed diligently with the performance of the Agreement in accordance with the directions of the **OWNER**.

6.6. Accuracy of Consultant's Work

CONSULTANT shall be required to perform this Agreement in accordance with the degree of ordinary and reasonable skill and care usually exercised by professional engineers prevailing at the time, place and under similar conditions as the services hereunder are rendered. **CONSULTANT** shall be responsible for the accuracy of all work, even though raw data, reports, Drawings and Specifications have been accepted by **OWNER**, and it shall make any necessary revisions or corrections resulting from its errors and/or omissions for no additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to **OWNER**, **CONSULTANT** has made an incontrovertible representation that the information is accurate within the appropriate standard of skill and care. Failure on the part of **CONSULTANT** to provide the expected level of accuracy may be grounds for **OWNER** to terminate this Agreement

6.7. Security Clause

The **CONSULTANT** certifies that he shall not at any time release or divulge any information concerning the services covered by this Agreement to any person or any public or private organization without prior approval of the **OWNER** unless otherwise required by law

6.8. Access to Records

The **CONSULTANT** and its sub-consultants shall maintain all books, documents, papers, and accounting records, and make such materials available at their respective offices at all reasonable times during the Agreement period and for three (3) years from the date of final payment under the Agreement for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for three (3) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future consultant engineering Agreements.

6.9. Risk Management Provisions, Insurance and Indemnification

6.9.1. DEFINITIONS

The **CONSULTANT** understands and agrees that the Risk Management Provisions of this Agreement define the responsibilities of the **CONSULTANT** to the **OWNER**.

As used in these Risk Management Provisions, the terms "**CONSULTANT**" and "**OWNER**" shall be defined as follows:

- a. **CONSULTANT** means the consultant and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.
- b. **OWNER** means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, assigns, volunteers, and successors in interest.

6.9.2. INDEMNIFICATION AND HOLD HARMLESS PROVISION

- a. It is understood and agreed by the parties that **CONSULTANT** hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of **CONSULTANT** or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "**CONSULTANT**") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- b. **CONSULTANT** shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "**OWNER**") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by **CONSULTANT**'s performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the **CONSULTANT**; and (b) not caused solely by the active negligence or willful misconduct of **OWNER**.
- c. Notwithstanding, the foregoing, with respect to any professional services performed by **CONSULTANT** hereunder (and to the fullest extent permitted by law), **CONSULTANT** shall indemnify, save, hold harmless and defend **OWNER** from and against any and all liability, damages and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent arising

out of, pertaining to or relating to the negligence, recklessness or willful misconduct of **CONSULTANT** in the performance of this agreement.

- d. In the event **OWNER** is alleged to be liable based upon the above, **CONSULTANT** shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by **OWNER**, which approval shall not be unreasonably withheld.
- e. These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- f. **OWNER** is a political subdivision of the Commonwealth of Kentucky. **CONSULTANT** acknowledges and agrees that **OWNER** is unable to provide indemnity or otherwise save, hold harmless, or defend the **CONSULTANT** in any manner.

6.9.3. DAMAGES RELATED TO NONPERFORMANCE OR DELAY BY CONSULTANT

In the event that **CONSULTANT'S** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **CONSULTANT** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney's fees.

6.9.4. FINANCIAL RESPONSIBILITY

The **CONSULTANT** understands and agrees that the **CONSULTANT** shall, prior to final acceptance of the **CONSULTANT'S** proposal and the commencement of any work; demonstrate the ability to assure compliance with the Indemnity Agreement and other provisions of this Agreement.

6.9.5. INSURANCE REQUIREMENTS

6.9.5.1. Required Insurance Coverage

CONSULTANT shall procure and maintain for the duration of this Agreement the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to **OWNER** in order to protect **OWNER** against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by **CONSULTANT**. The cost of such insurance shall be included in any proposal:

Coverage**Limits**

General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Professional Liability	\$1 million per occurrence, \$ 2 million aggregate
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. **OWNER** shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by **OWNER**.
- c. The General Liability Policy shall include Business Interruption coverage.
- d. The Contractor shall carry Builders Risk coverage at a level sufficient to cover the replacement cost of any equipment or machinery used at the work site, if applicable.
- e. The General Liability Policy shall include a Pollution Liability endorsement and/or Environmental Casualty coverage unless it is deemed not to apply by **OWNER**.
- f. The General Liability Policy shall have a Professional Liability endorsement (including Errors and Omissions), which shall include Business interruption coverage and this policy or endorsement shall include Environmental Casualty coverage for any services performed pursuant to the contract, and/or a separate Professional Liability Policy shall be obtained unless it is deemed not to apply by **OWNER**. (**OWNER** does not need to be named as additional insured).
- g. **OWNER** shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- h. The Professional Liability policy shall be maintained for a minimum of three years beyond the completion date of the project, to the extent commercially available. If not commercially available, **CONSULTANT** shall notify **OWNER** and obtain similar insurance that is commercially available and acceptable to **OWNER**.

selection for training, including apprenticeships. The **CONSULTANT** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

- 7.2. The **CONSULTANT** will, in all solicitations or advertisements for employees placed by or on behalf of the **CONSULTANT**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age (between forty and seventy), or handicap.

SECTION 8 - SPECIAL PROVISIONS, EXHIBITS, AND SCHEDULES

- 8.1. This Agreement is subject to the following provisions.

8.1.1. Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned Charles H. Martin, P.E., Director of the Division of Water Quality (the "**OWNER'S** Agent"), as the authorized agent of **OWNER**, to monitor, direct and review the performance of work of the **CONSULTANT**. Documents, data, reports, and all matters associated with carrying out this Agreement shall be addressed to the **OWNER'S** Agent or his designee. Questions by the **CONSULTANT** regarding interpretations of the terms, provisions and requirements under this Agreement shall be addressed to the **OWNER'S** Agent or his designee. The **CONSULTANT** shall look only to the **OWNER'S** Agent or his designee for direction in its performance under this Agreement; no other direction shall be binding upon **OWNER**. **OWNER** shall respond to written requests by **CONSULTANT** within thirty (30) days.

- 8.2. This Agreement, together with the Incorporated Documents (Section 1.2) constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and **EXHIBITS A, B, C and D** and any related schedules or documents may only be amended, supplemented, modified or canceled by a duly executed written instrument.

- 8.3. **NO THIRD PARTY RIGHTS.** This agreement does not create a contractual relationship with or right of action in favor of a third party against either **OWNER** or **CONSULTANT**.

- 8.4. **UNENFORCEABLE TERMS/SURVIVABILITY.** If any term or provision of this Agreement shall be found to be illegal or unenforceable, this Agreement shall remain in full force and such term or provision shall be deemed stricken. The provisions of Section 6 of this Agreement shall survive its termination.

- 8.5. **NON-WAIVER.** The failure of either party to enforce any right reserved to it in this Agreement shall not be a waiver of any such right to which the party is entitled.

EXHIBIT B

Certificate of Insurance

and

Evidence of Insurability



CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
04/27/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Aon Risk Insurance Services West, Inc. Los Angeles CA Office 707 Wilshire Boulevard Suite 2600 Los Angeles CA 90017-0460 USA	CONTACT NAME:	
	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
INSURED Tetra Tech, Inc. 424 Lewis Hargett Cr, Suite 110 Lexington, KY 40503 USA	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
	INSURER A: Lexington Insurance Company	19437
	INSURER B: Zurich American Insurance Company	16535
	INSURER C:	
INSURER D:		
INSURER E:		
INSURER F:		

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **Limits shown are as requested**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PRO-JECT ☒ LOC ☐ OTHER:			GLO1817406-01	10/01/2019	10/01/2020	EACH OCCURRENCE	\$1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$1,000,000
							MED EXP (Any one person)	\$10,000
							PERSONAL & ADV INJURY	\$1,000,000
							GENERAL AGGREGATE	\$2,000,000
							PRODUCTS - COMPI/OP AGG	\$2,000,000
B	☒ AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS NON-OWNED AUTOS ONLY			BAP1857085-01	10/01/2019	10/01/2020	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
							BODILY INJURY (Per person)	
							BODILY INJURY (Per accident)	
							PROPERTY DAMAGE (Per accident)	
	☐ UMBRELLA LIAB ☐ EXCESS LIAB ☐ DED ☐ RETENTION						EACH OCCURRENCE	
							AGGREGATE	
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N	N/A	WC2540616-01 WC1857087-01	10/01/2019 10/01/2019	10/01/2020 10/01/2020	☒ PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	\$1,000,000
							E.L. DISEASE-EA EMPLOYEE	\$1,000,000
							E.L. DISEASE-POLICY LIMIT	\$1,000,000
A	Professional Liability and Contractor's Pollution Liability			028182375	10/01/2019	10/01/2021	Each Claim	\$2,000,000
							Aggregate	\$4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Job Description: RFP #8-2020, Municipal Separate Storm Sewer System (MS4) Program Management Services

Lexington-Fayette Urban County Government is included as additional insured on a primary and non-contributory basis in accordance with the policy provisions of the Commercial General Liability, Automobile Liability, and Contractor's Pollution Liability policies.

CERTIFICATE HOLDER

CANCELLATION

Lexington-Fayette Urban County Government 200 East Main Street Lexington, KY 40507	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Aon Risk Insurance Services West, Inc.</i>

©1988-2015 ACORD CORPORATION. All rights reserved.

**ZURICH®**

Additional Insured – Owners, Lessees Or Contractors – Ongoing Operations – Scheduled

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 1817406-01	10/01/2019	10/01/2020	10/01/2019	75272000	N/A	N/A

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

SCHEDULE

Name of Person or Organization:	Location and Description of Ongoing Operations:	Additional Premium:
Any person or organization to whom or to which you are required to provide additional insured status in a written contract or written agreement executed prior to the loss, except where such contract or agreement is prohibited by law.	Any location or project, other than a wrap-up or other consolidated insurance program location or project for which insurance is otherwise separately provided to you by a wrap-up or other consolidated insurance program.	N/A

- A. Section II – Who Is An Insured** is amended to include as an insured any person or organization shown in the Schedule of this endorsement, but only with respect to liability arising out of your ongoing operations performed for that insured at or from the corresponding location designated and described in the Schedule.

However, if you have entered into a construction contract with an additional insured person or organization shown in the Schedule of this endorsement, the insurance afforded to such additional insured only applies to the extent permitted by law.

- B.** With respect to the insurance afforded to any additional insured shown in the Schedule of this endorsement, the following additional exclusion applies:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the site of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

All other terms and conditions of this policy remain unchanged.

**ZURICH®**

Additional Insured – Owners, Lessees Or Contractors – Completed Operations – Scheduled

Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 1817406-01	10/01/2019	10/01/2020	10/01/2019	75272000	N/A	N/A

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

SCHEDULE

Name of Person or Organization:	Location and Description of Completed Operations:	Additional Premium:
Any person or organization to whom or to which you are required to provide additional Insured status in a written contract or written agreement executed prior to the loss, except where such contract or agreement is prohibited by law.	Any location or project, other than a wrap-up or other consolidated insurance program location or project for which insurance is otherwise separately provided to you by a wrap-up or other consolidated insurance program.	N/A

Section II – Who Is An Insured is amended to include as an insured any person or organization shown in the Schedule of this endorsement, but only with respect to liability arising out of "your work" at or from the corresponding location designated and described in the Schedule performed for that insured and included in the "products-completed operations hazard".

However, if you have entered into a construction contract with an additional insured person or organization shown in the Schedule of this endorsement, the insurance afforded to such additional insured only applies to the extent permitted by law.

All other terms and conditions of this policy remain unchanged.

Other Insurance Amendment – Primary And Non-Contributory



Policy No.	Eff. Date of Pol.	Exp. Date of Pol.	Eff. Date of End.	Producer No.	Add'l. Prem	Return Prem.
GLO 1817406-01	10/01/2019	10/01/2020	10/01/2019	75272000	N/A	N/A

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

Named Insured:

Address (including ZIP Code):

This endorsement modifies insurance provided under the:

Commercial General Liability Coverage Part

1. The following paragraph is added to the Other Insurance Condition of Section IV – **Commercial General Liability Conditions:**

This insurance is primary insurance to and will not seek contribution from any other insurance available to an additional insured under this policy provided that:

- a. The additional insured is a Named Insured under such other insurance; and
 - b. You are required by a written contract or written agreement that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.
2. The following paragraph is added to Paragraph 4.b. of the Other Insurance Condition of Section IV – **Commercial General Liability Conditions:**

This insurance is excess over:

Any of the other insurance, whether primary, excess, contingent or on any other basis, available to an additional insured, in which the additional insured on our policy is also covered as an additional insured on another policy providing coverage for the same "occurrence", offense, claim or "suit". This provision does not apply to any policy in which the additional insured is a Named Insured on such other policy and where our policy is required by written contract or written agreement to provide coverage to the additional insured on a primary and non-contributory basis.

All other terms and conditions of this policy remain unchanged.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM
BUSINESS AUTO COVERAGE FORM
MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured:

Endorsement Effective Date:

SCHEDULE

Name Of Person(s) Or Organization(s):

ANY PERSON OR ORGANIZATION TO WHOM OR WHICH YOU ARE REQUIRED TO PROVIDE ADDITIONAL INSURED STATUS OR ADDITIONAL INSURED STATUS ON A PRIMARY, NON-CONTRIBUTORY BASIS, IN A WRITTEN CONTRACT OR WRITTEN AGREEMENT EXECUTED PRIOR TO LOSS, EXCEPT WHERE SUCH CONTRACT OR AGREEMENT IS PROHIBITED BY LAW.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph A.1. of Section II – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph D.2. of Section I – Covered Autos Coverages of the Auto Dealers Coverage Form.

ENDORSEMENT

This endorsement, effective 12:01 AM, 10/01/2019
Forms a part of Policy No: 028182375
Issued to: TETRA TECH, INC.
By: LEXINGTON INSURANCE COMPANY

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED(S) ENDORSEMENT

It is hereby agreed that:

1. The following entity(s) is (are) included as additional **Insured(s)** under Section **VI. DEFINITIONS**, Paragraph **I. Insured** solely as respects to Coverage B and solely as respects liability arising out of **Covered Operations** performed by the **Named Insured**. Coverage is not afforded for any **Loss** arising from the scheduled additional **Insured's** own liability.

Additional Insured(s)

1. Any entity where required by written contract with the first **Named Insured** indicated in Item 1. of the Declarations.
2. Solely wither respect to coverage afforded in this Endorsement, the following is added to the end of Section **V. CONDITIONS**, Paragraph **A. HOW OTHER INSURANCE APPLIES**, Subparagraph 2., as amended in Endorsement 9, **WORLDWIDE TERRITORY - CLAIMS IN UNITED STATES OR CANADA HOW OTHER INSURANCE APPLIES - EXCLUSION FOR PROFESSIONAL SERVICES AND COVERED OPERATIONS INSURED UNDER A SEPARATE PROJECT ENDORSEMENT**:
 - b. This insurance is primary and non-contributory, and the Company's obligations are not affected by any other insurance carried whether primary, excess, contingent, or on any other basis.

The Company's limits of liability as specified in the Declarations of this Policy are not increased.

All other terms, conditions, and exclusions shall remain the same.

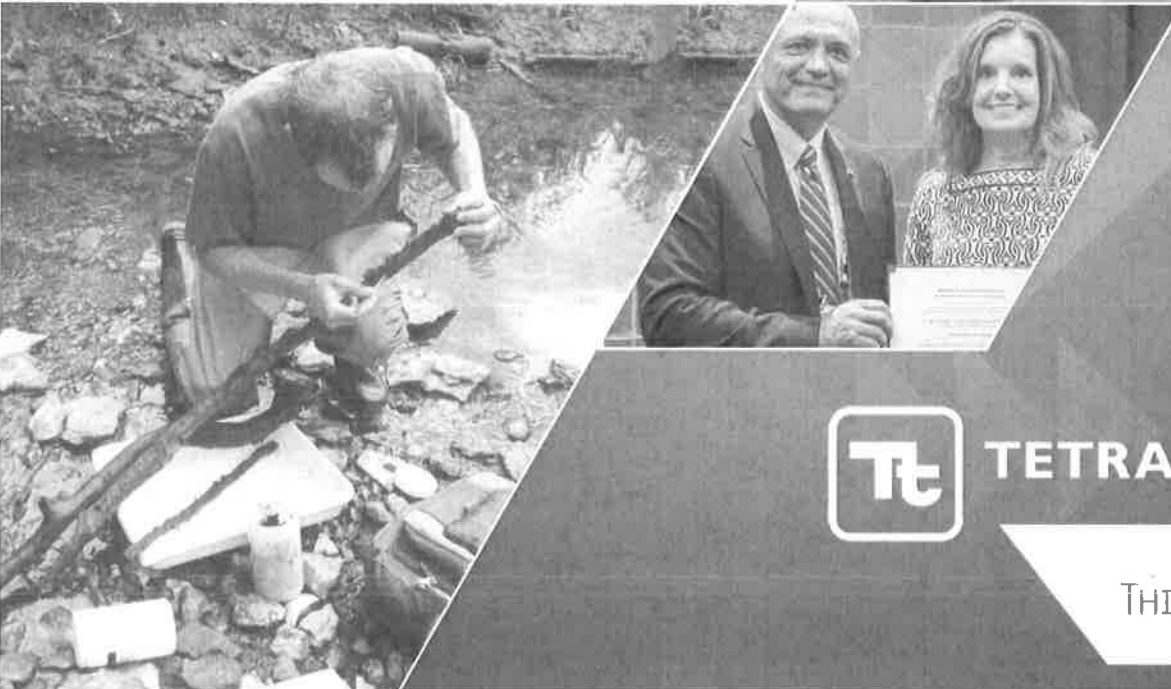
EXHIBIT C

Proposal of Engineering Services and Related Matters



Response to RFP #8-2020:

Municipal Separate Storm Sewer System (MS4) Annual Program Management Services

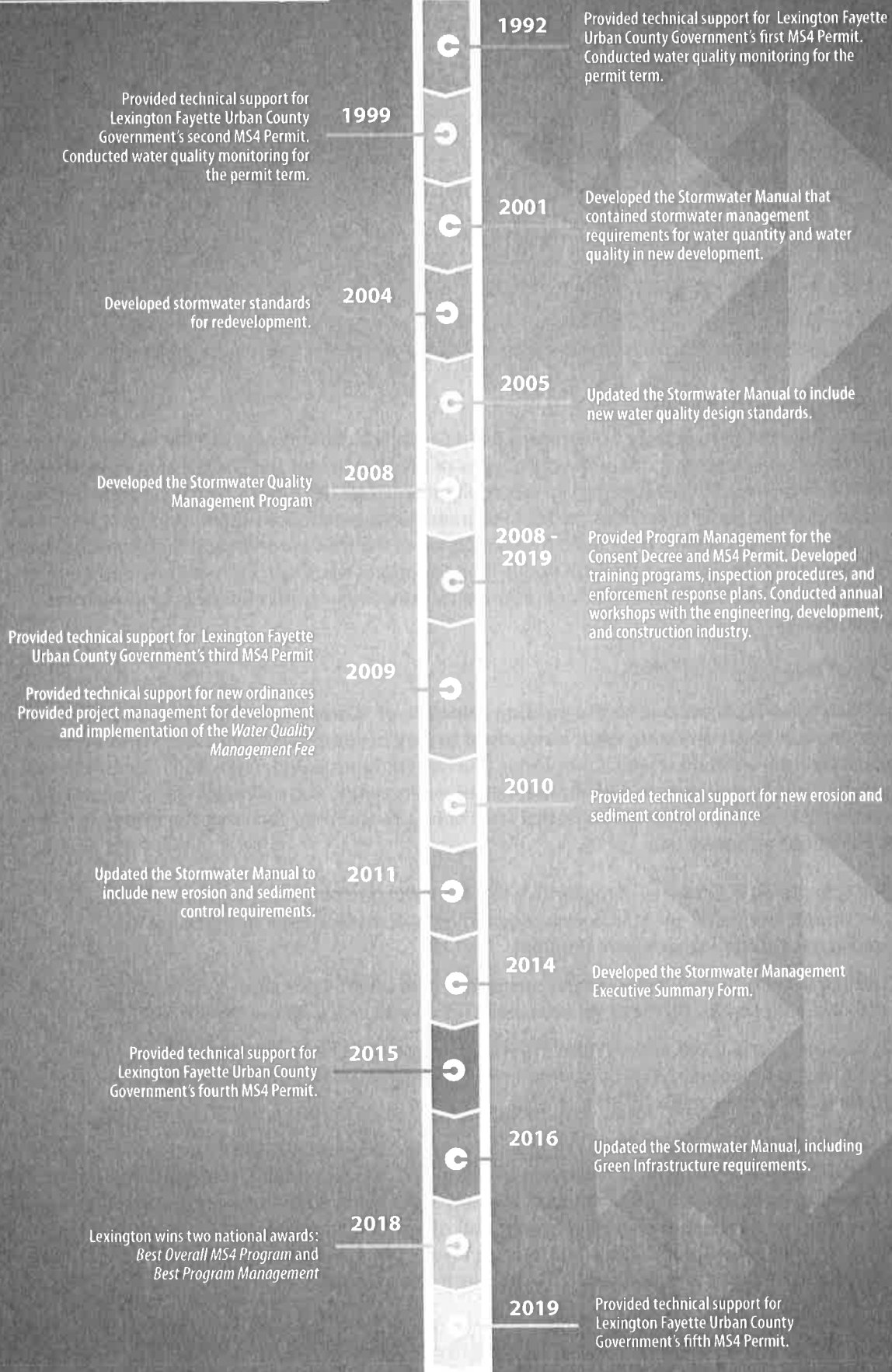


TETRA TECH

THIRDROCK
CONSULTANTS

SRE
Salt River
Engineering

Tetra Tech's Role in LFUCG's MS4 Program





TETRA TECH

April 10, 2020

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 #8-2020)

Municipal Separate Storm Sewer System (MS4) Annual Program Management Services

Dear Selection Committee Member:

The Lexington-Fayette Urban County Government (LFUCG) made a commitment in 2008 to provide the resources, internal and external, to meet the obligations of the MS4 Permit and the Consent Decree. As part of this commitment, LFUCG advertised for a consultant and later hired Tetra Tech supported by Third Rock Consultants (Third Rock) to serve as the MS4 Program Management Consultant. Since that time, our team has worked with city staff to both build the foundation of the MS4 program and then continue for the past 12 years to achieve success through unquestioned compliance. Our local team has worked hard to continually deliver an effective and efficient program by providing an optimum mix of internal and consultant resources.

PROVEN RECORD OF COMPLIANCE

The Tetra Tech team is committed to the guiding principle of “Compliance First”, which means we will keep a singular focus on doing what is required to stay in compliance with the MS4 Permit and Consent Decree—and do it well. Compliance is achieved through understanding what is required, planning ahead to complete tasks in a timely manner, executing work, and maintaining the necessary documentation. It is a testament to the collective team of LFUCG and Tetra Tech that the following successes have been achieved:

- ✓ LFUCG has been in continual compliance with all 40 MS4 performance standards in the Consent Decree, all 141 MS4 permit requirements, and 186 measurable goals in the Stormwater Quality Management Program
- ✓ The Kentucky Division of Water (KDOW) inspected LFUCG's MS4 program in 2010, 2012, 2016, and 2019 and found the program to be in full compliance with the MS4 Permit
- ✓ LFUCG won two national awards from the Water Environment Federation (WEF)—
LFUCG was recognized in 2018 as having the best overall MS4 Program and the best Program Management system

Compliance is also achieved through deeply ingrained knowledge of the KDOW and U.S. Environmental Protection Agency (EPA) regulations as it pertains to all aspects of the Consent Decree and MS4 Permit. Most recently, Tetra Tech facilitated and documented the stakeholder involvement process that involved a SWOT analysis (strengths, weaknesses, threats, and opportunities) for each program element to assist LFUCG in preparing the permit renewal application. This process resulted in a re-application letter to KDOW that proposed eliminating redundant programs, which will save money going forward.

COST-EFFECTIVE PROGRAM MANAGEMENT

Cost effective program management is reflected in the combined effectiveness and efficiency of both LFUCG and consultant staff operations. The program requires extensive LFUCG resources, equivalent to approximately 15 full time employees. Tetra Tech has streamlined the overall resource requirements through the development of processes and procedures. Because Tetra Tech has intimate knowledge and understanding of what is required and how the LFUCG organization works, we were able to develop the necessary procedures, processes, and tracking mechanisms. This has directly resulted in efficiency and improved coordination as well as made it easier for LFUCG to on-board new staff when inevitable transitions occur.

Over the last 12 years, Tetra Tech has first-hand experience with the Consent Decree, MS4 Permit, and LFUCG operating procedures. ***Retaining Tetra Tech will lead to cost savings because there will be no learning curve.*** In addition, we have developed a cost-effective system of scheduling, reporting, and document management that saves LFUCG staff time and money. These processes have also made our work more efficient, and our fees have declined over time. In fact, when adjusted for inflation, our fees in 2019 were approximately 50 percent less than our fees in 2011 for the original MS4 program components.

ABILITY TO WORK AS AN EXTENSION OF STAFF

Over the last 12 years, we have built a relationship of mutual trust and respect with LFUCG, which has allowed us to work as an extension of LFUCG staff. The Tetra Tech team has local, dedicated staff that accomplish the day to day planning and detailed work to meet the regulatory requirements. In addition, we provide both state and national stormwater and regulatory experts immediately available to the program. For example, Abigail Rains, the former MS4 Coordinator for the Commonwealth of Kentucky, is part of our team, and we have numerous experts that have worked closely with the EPA in national stormwater program development. Our team is committed to planning ahead and performing work that is highly responsive, of high quality, on schedule, and within budget.

PREPARED FOR THE FUTURE

Together, LFUCG and the Tetra Tech team have built a solid foundation as long-term partners for the MS4 program. The processes are in place to provide ongoing compliance with the MS4 Permit and Consent Decree; however, we cannot rest on past achievements. In the long term, LFUCG wants a program that can be sustained with in-house staff as much as possible. The Tetra Tech team is committed to helping LFUCG reach this goal by continuing to improve the current processes so new staff can quickly learn and implement them.

As we look to the future, we are prepared to address the requirements in the pending renewal of the MS4 Permit and update the Stormwater Quality Management Program to reflect the ***Compliance First*** approach. This will likely include a refinement of the Total Maximum Daily Load (TMDL) strategy. In addition, there is a point at which LFUCG will be ready to request termination of the Consent Decree MS4 obligations. The Tetra Tech team has been working toward this goal from day one in 2008. The work performed by LFUCG and the Tetra Tech team has been fully documented and will demonstrate that all obligations have been met.

All the work on the project will be conducted by people in the local offices of Tetra Tech, Third Rock, and Salt River Engineering. 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,



Richard W. Walker, PE
Vice President

Tetra Tech, Inc.
424 Lewis Hargett Circle, Suite 110, Lexington, KY 40503
Tel 859.223.8000 | Fax 859.224.1025 | Web www.tetrattech.com

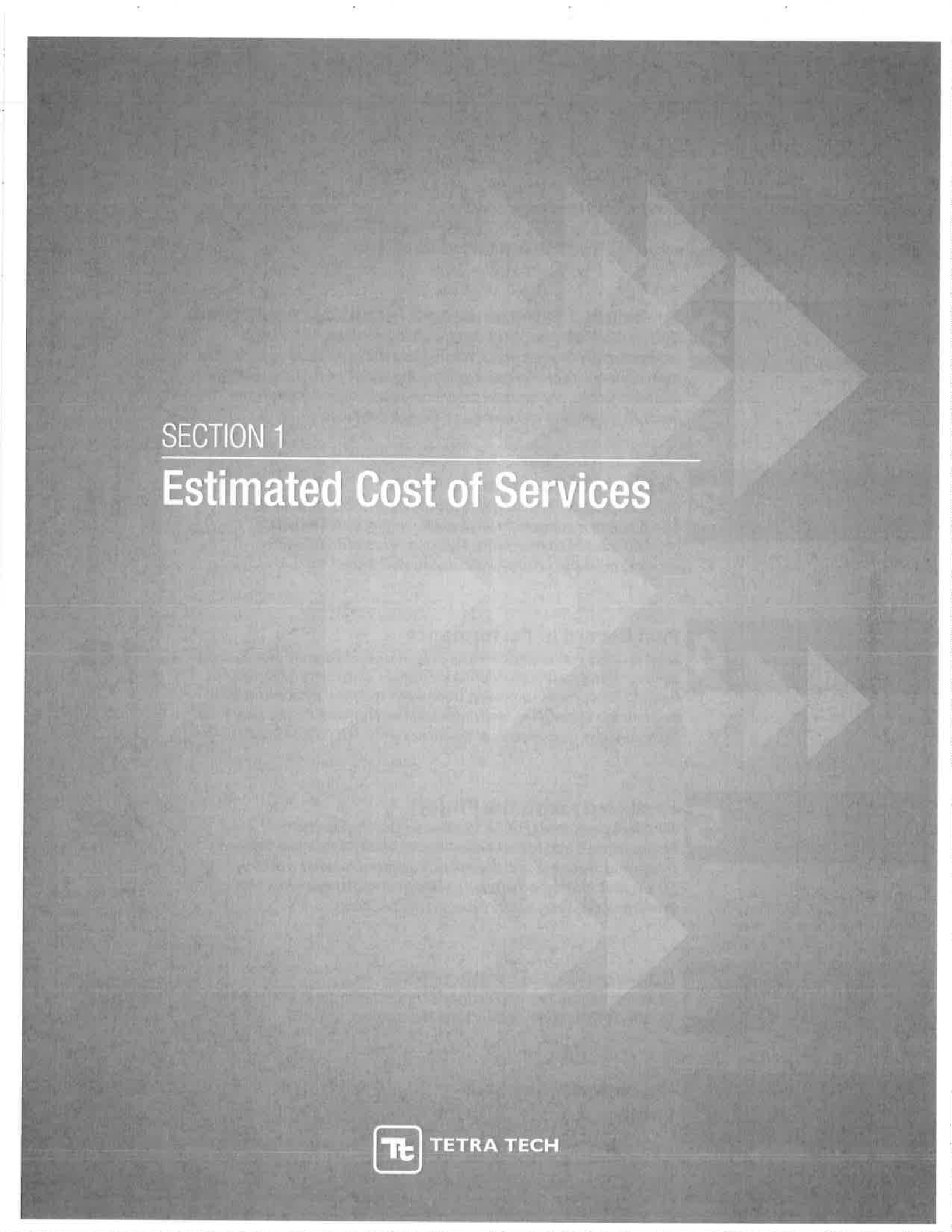
REASONS TO SELECT THE TETRA TECH TEAM

We offer the following reasons for selecting the Tetra Tech team:

REASON TO SELECT THE TETRA TECH TEAM	TETRA TECH & THIRD ROCK ATTRIBUTES	BENEFITS TO LFUCG
Proven Record of Performance with Lexington's MS4 Program	- Served as Lexington's MS4 Program Manager since 2008 - KDOW Inspections in 2010, 2012, 2016, and 2019 found the program to be in full compliance - Lexington was recognized as the best large MS4 program in the nation in 2018	✓ No LFUCG staff time to train Tetra Tech ✓ Continued 100% compliance track record ✓ Reduced cost of compliance ✓ Compliance in the present and a plan for the future
Understanding of Lexington's MS4 Permit and Consent Decree	- Developed the Stormwater Quality Management Program in 2008 as part of the City's negotiations with EPA - Team includes Abigail Rains, the former MS4 Permit Coordinator for Kentucky	✓ Confidence and respect of LFUCG, KDOW, and EPA ✓ Lower cost of compliance
Ability to Work as an Extension of DWQ staff	All key staff anticipated to work on the project are located in Lexington and have a working relationship with LFUCG staff	✓ Effective communication ✓ Deadlines met ✓ Less burden on city staff
Laid the Foundation for Long-Term Compliance	- Developed Enforcement Response Plans - Developed Permitting, Inspection, and Enforcement Procedures - Developed training programs for city staff	✓ Operating systems are in place ✓ Understand LFUCG expectations ✓ Less burden on city staff
Depth of Experience in Water Quality Monitoring and Reporting	- Biologist / Scientists assigned to the project have a 25-year history with sampling streams in Lexington - Developed sampling programs approved by KDOW	✓ Knowledge of streams will allow monitoring costs to be further reduced ✓ Respect of LFUCG, KDOW, and EPA will lead to continued compliance
Cost Effective	Tetra Tech's Program Management costs in 2019 were 50% of the 2011 costs when adjusted for inflation	✓ Affordable and effective way to help city staff maintain regulatory compliance ✓ Lower costs ✓ Less burden on city staff

Table of Contents

Section 1	Cost of Services <i>Tetra Tech has served as LFUCG's MS4 Program Manager for 12 years. Our annual fees have declined with increased efficiency.</i>	1
Section 2	Specialized Experience and Technical Competence <i>The Tetra Tech team has an in-depth working knowledge of LFUCG's programs and processes, which means there will be no learning curve. Our team worked with LFUCG management and KDOW on the Consent Decree and MS4 Permits, and we have experience providing innovative water quality data analysis and communication to the public.</i>	4
Section 3	Capacity to Perform the Work <i>Our team provides local staff with proven experience in providing MS4 program management services. Our resource pool includes over 200 specialized stormwater experts and professionals with access to more than 20,000 professionals worldwide.</i>	11
Section 4	Past Record of Performance <i>Tetra Tech has proven performance as LFUCG's MS4 Program Manager, has conducted stormwater monitoring in Fayette County since 1992, and has national experience in providing stormwater technical services to the EPA and multiple states, cities, and municipalities. Furthermore, our local Tetra Tech staff have over 26 years of experience with LFUCG's MS4 program.</i>	18
Section 5	Familiarity with the Project <i>Tetra Tech developed LFUCG's Stormwater Quality Management Program that is part of the Consent Decree and MS4 Permit, developed scheduling, reporting, and document management systems used by LFUCG staff, and has a thorough understanding of the pending MS4 Permit and the water quality issues in Fayette County.</i>	49
Section 6	Degree of Local Employment <i>All work is anticipated to be performed by people in the local offices of Tetra Tech, Third Rock, and Salt River Engineering.</i>	62
Appendix	Resumes for Key Staff Forms	63



SECTION 1

Estimated Cost of Services



TETRA TECH

Section 1: Estimated Cost of Services

SCHEDULE OF HOURLY RATES

The following tables present a schedule of hourly rates for Tetra Tech, Third Rock Consultants, and Salt River Engineering employees for the duration of the contract (up to 5 years).

TABLE 1-1: TETRA TECH SCHEDULE OF HOURLY RATES

CLASSIFICATION	NAME	HOURLY BILLING RATE
Program Manager	Richard Walker	\$220
Engineer II	Abby Monhollen	\$120
Engineer III	Lucy Pacholik, Ryan Rathfon	\$130
Project Engineer I	Chris Hale	\$150
Senior Engineer I	Herb Lemaster	\$210
Engineering Designer III	Dean Vittitoe	\$140
Senior Technician I	Shann Easterling	\$115
Senior Policy Analyst	Barry Tanning	\$150
Project Assistant II	Mary Corbitt	\$85

TABLE 1-2: THIRD ROCK CONSULTANTS SCHEDULE OF HOURLY RATES

CLASSIFICATION	NAME	HOURLY BILLING RATE
Principal	Molly Foree	\$212
Engineer I	Casey Mattingly	\$159
Engineer II	William "Mac" Hall	\$125
Engineer III	Jared Looney	\$90
Environmental Planner I	Gina Morris	\$212
Environmental Planner II	Gerry Fister, Abigail Rains	\$143
Environmental Planner III	Ashley Storm	\$80
Environmental Scientist I	Bert Remley, Rain Storm	\$106
Environmental Scientist II	Cory Bloyd, Chelsey Olson, James Storm	\$85
Environmental Scientist III	Kenton Hall, Ryan McGregor	\$74
Environmental Tech I	Tammie Fister	\$64
Environmental Tech II	Summer Interns	\$48
GIS/CADD I	Lisa Stratton	\$74
Contracts Administrator	Darlene Collins, Becky Weatherford	\$53

TABLE 1-3: SALT RIVER ENGINEERING SCHEDULE OF HOURLY RATES

CLASSIFICATION	NAME	HOURLY BILLING RATE
Engineer	Connie Allen	\$130

LABORATORY FEES

Table 1-4 presents our laboratory fees for the analytes listed in the current MS4 Permit as requested in the RFP.

TABLE 1-4: LABORATORY COSTS

PARAMETER	SYMBOL	COST
Total Suspended Solids	TSS	\$15.00
Nitrate + Nitrite	NO ₂ +NO ₃	\$30.00
Total Phosphorus	TP	\$20.00
Total Kjeldahl Nitrogen	TKN	\$45.00
Ammonia	NH ₃ -N	\$20.00
Dissolved Phosphorus	PD	\$25.00
E. coli	E. coli	\$25.00
Total Recoverable Lead	Pb	\$20.00
Total Recoverable Copper	Cu	\$20.00
Total Recoverable Cadmium	Cd	\$20.00
Total Recoverable Zinc	Zn	\$20.00
Hardness	Hd	\$15.00
5-Day Carbonaceous Biochemical Oxygen Demand	CBOD-5	\$20.00
Chlorine	Chlorine	\$20.00
Chemical Oxygen Demand	COD	\$20.00
Municipal Source Tracking	MST	\$415-\$860*

*Price varies from \$415-\$860 depending on number of markers

ESTIMATED FEES AND COST CONTROL

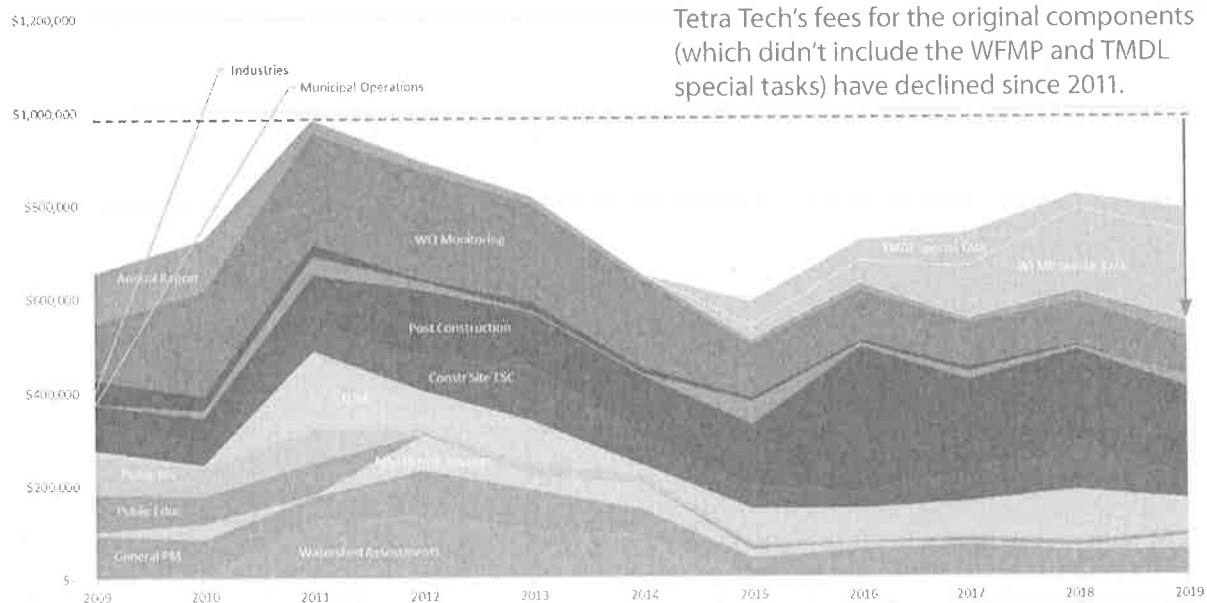
With over a decade serving the Lexington-Fayette Urban County Government (LFUCG), Tetra Tech is keenly aware of the need to be cost conscious. We understand the importance of completing a task on time and within the budget that LFUCG agrees to at the beginning of that task. To that end, we will continue to use the task order method of conducting work we have been using over the last 12 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.

As expected by LFUCG's Division of Water Quality (DWQ), our fees were highest during the early stages of the Consent Decree (2009-2011) because nearly everything was developed from the ground up. During that time, we developed standardized processes that have created efficiencies in the execution of the work. In fact, when adjusted for inflation, our fees in 2019 for the

original components (which didn't include the Watershed-Focused Monitoring Program [WFMP] and Total Maximum Daily Load [TMDL] Strategy) were 50% lower than our fees in 2011.

To develop the scope of work for each task order, we will use the same concept that has proven successful on many projects, including our current program management contract with LFUCG: start work on a task with a *Begin with the End in Mind* attitude. Our staff and the LFUCG project manager need to clearly understand and articulate the expectations for a deliverable. As such, to develop the scope of work for each task order, we will meet with the LFUCG MS4/Water Quality Section Manager and other LFUCG staff as needed to identify the deliverable. Once the task order is approved, we will hold periodic progress meetings to keep the project on schedule and prevent scope creep. Moreover, we will not perform work outside of the original task order without written approval from the LFUCG project manager.

FIGURE 1-1: TETRA TECH'S MS4 PROGRAM MANAGEMENT FEES BY COMPONENT



SECTION 2

Specialized Experience and Technical Competence



TETRA TECH

Section 2: Specialized Experience and Technical Competence

TETRA TECH'S SPECIALIZED EXPERIENCE AND TECHNICAL COMPETENCE

The Tetra Tech team will provide LFUCG with a highly-qualified group of engineers, policy analysts, biologists, geologists, and environmental scientists with specialized experience in program management, policy analysis, workshop development and training, water quality monitoring, and data management to continue on with this successful program.

Our team has a rich blend of in-depth local knowledge and national experience to continue the implementation of LFUCG's Consent Decree and MS4 Permit. This combination offers LFUCG a perspective and knowledge base to address the specific local issues that are the immediate priority, while keeping anticipated future regulatory requirements in mind. Key staff include:

- Richard Walker, PE, CFM – Project/Program Manager
- Herb Lemaster, PE – Principal Project Engineer
- Lucy Pacholik, EIT – Principal Project Engineer
- Abby Monhollen, EIT – Principal Project Engineer
- Mac Hall, EIT (Third Rock) – Principal Project Engineer
- Carol Hufnagel, PE – National Technical Advisor
- Dan Christian, PE, D.WRE – National Technical Advisor
- Barry Tanning – Policy Analyst
- Molly Foree, JD (Third Rock) – Policy Analyst
- Abigail Rains, CFM (Third Rock) – Policy Analyst
- Bert Remley (Third Rock) – Environmental Scientist
- Cory Bloyd – (Third Rock) – Environmental Scientist
- Gerry Fister, PG (Third Rock) – Environmental Planner
- Chelsey Olson (Third Rock) – Environmental Scientist

Section 3 includes the organization chart and full team.

UNMATCHED EXPERIENCE WITH LFUCG'S MS4 PROGRAM

Having worked on the program since the beginning, the Tetra Tech team knows LFUCG's MS4 Program better than any other consultant.

- ✓ We assisted the city in the development of the foundation for the MS4 Program—the policies, procedures, and regulations—embraced by citizens, the business community, and LFUCG staff
- ✓ Our staff helped the city negotiate the stormwater provisions in the 2008 Consent Decree and the 2009 MS4 Permit

- ✓ We have had the pleasure and privilege to serve as the Program Management consultant since 2008 and have worked with the LFUCG staff to create a "Culture of Compliance" for the program

This experience demonstrates that the Tetra Tech team possesses the specialized experience to maintain the current programs and to prepare for future challenges. Examples of our team's specialized experience developing policies and procedures with LFUCG's program is provided below.

TETRA TECH'S SPECIALIZED EXPERIENCE WITH DEVELOPING THE POLICIES, PROCEDURES, AND REGULATIONS FOR LFUCG'S MS4 PROGRAM:

1. 2008 Stormwater Quality Management Program
2. Ordinances for Erosion/Sediment Control, Industries, Stormwater Maintenance, and Illicit Discharges
3. Water Quality Management Fee
4. Enforcement Response Plans for Construction Sites, Post-Construction Stormwater Management, Illicit Discharges, and Industrial Facilities
5. Water Quality Monitoring – Chemical, Biological, and Habitat
6. Permitting, Inspection, and Enforcement Procedures for Erosion and Sediment Control
7. Stormwater Manual for New Development
8. Green Infrastructure Design and Construction Details
9. Procedures Manual for Infrastructure Development
10. Erosion and Sediment Control Training Program
11. TMDL Implementation Strategy
12. Erosion and Sediment Control Technical Specifications
13. Major Outfall Inventory
14. Stream Assessments
15. Compliance Inspections of over 70 construction sites in Fayette County

NATIONAL STORMWATER EXPERIENCE

Tetra Tech has been ranked No. 1 in Water in the nation by *Engineering News-Record* for 16 consecutive years. We have a continuous focus on providing clear solutions to client challenges.

Tetra Tech has implemented MS4 and TMDL programs at the state and local level. For example, we supported Pennsylvania and Minnesota in development of their state programs. Locally, we have worked closely with major cities and small communities—including LFUCG, Kentucky Division of Conservation, Kentucky Division of Water, and the Kentucky Transportation Cabinet—in implementing a range of stormwater programs, from standards to processes to development of implementation priorities. This includes municipalities in major metropolitan areas and small communities in multiple states, including the Southeast Michigan Council of Governments, the cities of Grand Rapids, MI; Dublin, OH; Durham, NC; and Virginia Beach; as well as Genessee County, MI; Prince George's County, MD; and Michigan's and Nevada's Departments of Transportation.

Our team will continue to apply the lessons learned through multiple levels of stormwater programs (federal, state, and local). Local Tetra Tech staff have direct access to the specific individuals who worked on these projects and will continue integrating this specialized expertise directly into LFUCG's stormwater program when needed.

Table 2-1 on the following page lists projects where Tetra Tech has provided the specialized services requested in the RFP.

Figure 2-1 on page 7 presents our national stormwater experience.



Tetra Tech's Nationwide Experience Relevant to LFUCG's MS4 Program

- ✓ MS4 Program Management in multiple communities nationwide including: Virginia Beach, VA; Prince George's County, MD; and San Diego, CA
- ✓ State Level MS4 Program Development in Minnesota and Pennsylvania
- ✓ Green Infrastructure Program Development in Detroit, MI; Grand Rapids, MI; San Diego, CA; and Milwaukee, WI
- ✓ Green Infrastructure assessment in Pittsburgh, PA; Omaha, NE; St. Louis, MO; Toledo, OH; and Raleigh, NC
- ✓ Development of multiple stormwater/green infrastructure manuals including San Antonio, TX; San Diego, CA; and Detroit, MI
- ✓ Development of hundreds of TMDLs throughout the country, including such critical locations as Chesapeake Bay
- ✓ Over a decade of science based stormwater management and green infrastructure support to the EPA Office of Water
- ✓ Development of major stormwater funding programs in such locations as Detroit, MI and Prince George's County, MD
- ✓ Climate Change Forecasting in support to municipalities, state and federal agencies
- ✓ Resiliency and Flood Mitigation for Michigan DOT
- ✓ Erosion and Sediment Control Training in 14 states
- ✓ Receiving water monitoring and assessment studies including pollutant characterization and reduction planning
- ✓ Design of stormwater management and green infrastructure projects nationwide

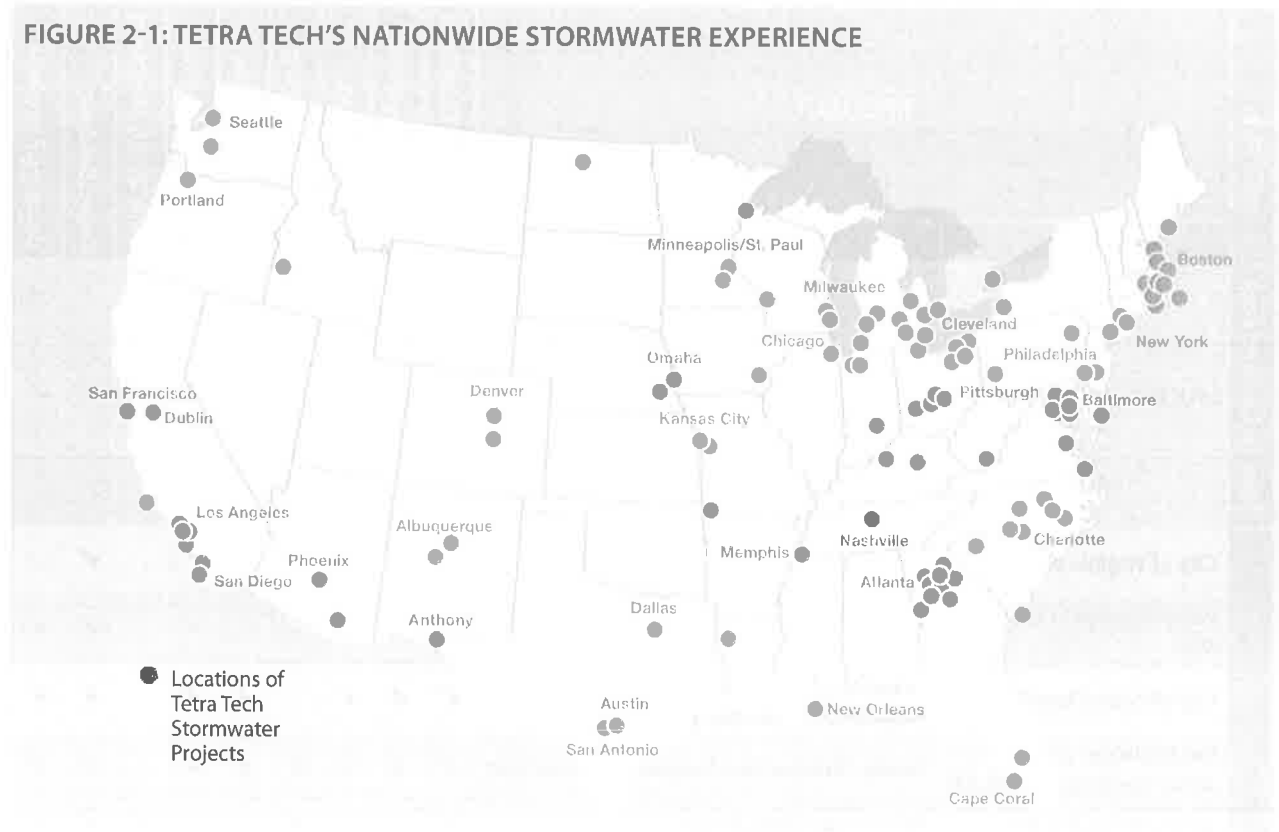
Table 2-1 below lists Tetra Tech's experience providing the specialized services requested in the RFP.

TABLE 2-1: SPECIALIZED EXPERIENCE WITH THE TYPE OF SERVICES REQUESTED IN THE RFP

Firm	PROJECT		MS4 Program Compliance	Program Management	Technical Manuals	Regulatory Reporting	Ordinances and Policies	Training and Workshops	Water Quality Monitoring	Project Database	Operating Procedures	Stormwater Engineering
	CLIENT	PROJECT										
Tetra Tech & Third Rock	LFUCG	MS4 Program Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	City of Virginia Beach	MS4 and Environmental Management Services	✓	✓		✓		✓		✓		✓
	Prince George's County, MD	MS4 Permit Support and TMDL Planning	✓	✓				✓		✓	✓	✓
Tetra Tech	City of Grand Rapids, MI	MS4/Stormwater Master Planning, Regulations, and Design	✓	✓	✓		✓	✓		✓	✓	✓
	Detroit Water and Sewerage Department, MI	Green Infrastructure Program Management	✓	✓	✓	✓	✓	✓		✓	✓	✓
	Genesee County, MI	MS4 Permit Compliance	✓			✓			✓	✓	✓	
	Minnesota Pollution Control Agency	MS4 Phase II Program Support	✓	✓	✓			✓			✓	
	LFUCG	2016 Stormwater Manual for New Development	✓	✓	✓		✓	✓				✓
	City of Dublin, OH	Stormwater Design Manual	✓		✓		✓	✓				✓
	American Rivers, Toledo, OH	LID Manual for the Lower Maumee and Ottawa River Watersheds			✓			✓				
	Kentucky Division of Water, Division of Conservation, and Transportation Cabinet	Kentucky Erosion Prevention and Sediment Control Field Guide and Technical Manual		✓	✓	✓	✓	✓				✓
	Kentucky Division of Conservation	Hinkston Creek Watershed Plan, East-Central Kentucky		✓	✓			✓	✓	✓		
	U.S. EPA	Chesapeake Bay TMDL Watershed Implementation Plan		✓	✓			✓		✓		
	City of Durham, NC	Third Fork Creek Watershed Plan		✓	✓		✓	✓				
	Southeast Michigan Council of Governments and Michigan DOT, MI	Roadway Infrastructure—Climate Resiliency and Flood Mitigation		✓	✓			✓				✓
Third Rock	LFUCG	Wolf Run Watershed Plan		✓	✓			✓	✓	✓	✓	
	LFUCG	Cane Run Watershed Plan		✓	✓			✓	✓	✓	✓	
	LFUCG	Environmental Analysis, Design, and Permitting—Sanitary Sewer Capital Projects		✓		✓			✓	✓	✓	✓

Our Lexington staff is committed to working on your projects and can also leverage our national resources for additional technical expertise when needed.

FIGURE 2-1: TETRA TECH'S NATIONWIDE STORMWATER EXPERIENCE



San Diego, CA

On-call stormwater services, including planning, design, construction, training, and other stormwater program support



San Antonio, TX

Strengthened LID use through manual development, staff training, code development, and project design



Omaha, NE

Stormwater management concepts for 987 acres, including 35,000 CF of subsurface storage



Milwaukee, WI

Enhanced management of stormwater volumes and peak rates of discharge and non-point source pollutant loads



Lansing, MI

Helping integrate LID/GI practices citywide for stormwater treatment as part of ongoing CSO mitigation



Pittsburgh, PA

Developed web-based tool for evaluating and siting GI based on multiple criteria



Kansas City, MO

Conducted a pilot project to measure and evaluate the performance of GI



Philadelphia, PA

Modeling benefits of Green Cities, Clean Water Initiative on downstream water quality



Long Island, NY

Regional and local stormwater management using bioretention and subsurface storage galleries



Seattle, WA

Developed retrofit plan for flow control using hydrologic and BMP optimization modeling



Gwinnett, GA

Developed Stormwater Manual and designed, inspected, and monitored GI practices



Prince George's County, MD

Have supported the County for 20+ years in pioneering and becoming a national leader in the use of LID



Raleigh, NC

Providing on-call engineering services and building City framework and capacity to advance use of GI/LID



Washington, DC

GI planning and design for private landowners to access stormwater retention credits



THIRD ROCK'S SPECIALIZED EXPERIENCE AND TECHNICAL COMPETENCE

Third Rock has supported Tetra Tech since 2001 in providing water quality monitoring services to LFUCG and has been part of the MS4 Program Management team from the beginning in 2008. They have a highly experienced local staff of field-tested aquatic and terrestrial ecologists, engineers, geologists, planners, EPSC inspectors, technical writers, GIS analysts and administrative support.

INNOVATIVE DATA COMMUNICATION

In addition to collecting and reporting data for Consent Decree/MS4 compliance, Third Rock is experienced with providing innovative data communication to relay important information related to stormwater and stream water quality to groups such as 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 both annual reports and in public meetings. For example, our team prepared an extensive presentation in June 2014 for the LFUCG Stormwater Stakeholder Advisory Committee to provide them with current information on LFUCG's monitoring program and the five-year trend analysis results. This presentation allowed stakeholders to focus efforts on the primary sources and causes of impairment.

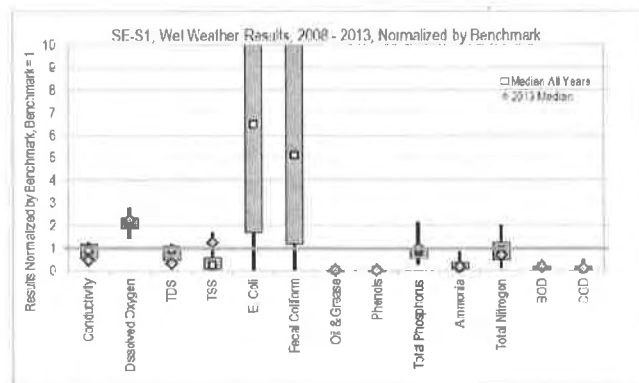
Third Rock's experience includes condensing immense amounts of data and performing appropriate analyses to extract valuable conclusions from the data. Their trend analysis evaluated 15,152 water quality analyses and biological metric scores collected over the past 5 to 10 years to find that water quality has

been relatively static with few significant trends. Third Rock also developed Watershed Fact Sheets to provide a one-page summary of water quality for each watershed and used charts, tables, stream hydrographs, box-and-whisker plots, and pollutant load duration curves to understand the scope and nature of quality impacts.

Additionally, the team developed a protocol to characterize overall stream health using a summary status rating of Good, Fair, Poor, or Very Poor. These summaries allowed stakeholders to understand that pathogens are a significant problem throughout the MS4, particularly in wet weather, but contrary to popular understanding, nutrients are problematic only regionally and metals and numerous other parameters are routinely within acceptable limits. Rather, 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 developed a customized program to evaluate the fitness of the LFUCG MS4 monitoring program for meeting the goals of the permit and identifying water quality problems within the MS4 watersheds. Through a combination of this evaluation program and trend analysis of the monitoring results, Third Rock determined that numerous parameters were not providing meaningful data or were being collected too frequently. These conclusions were utilized in negotiations with Kentucky Division of Water (KDOW) to reduce or drop many previously permit required parameters, providing significant cost savings. Additionally, the evaluation showed that in order 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 into 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 will aid in improving water quality.

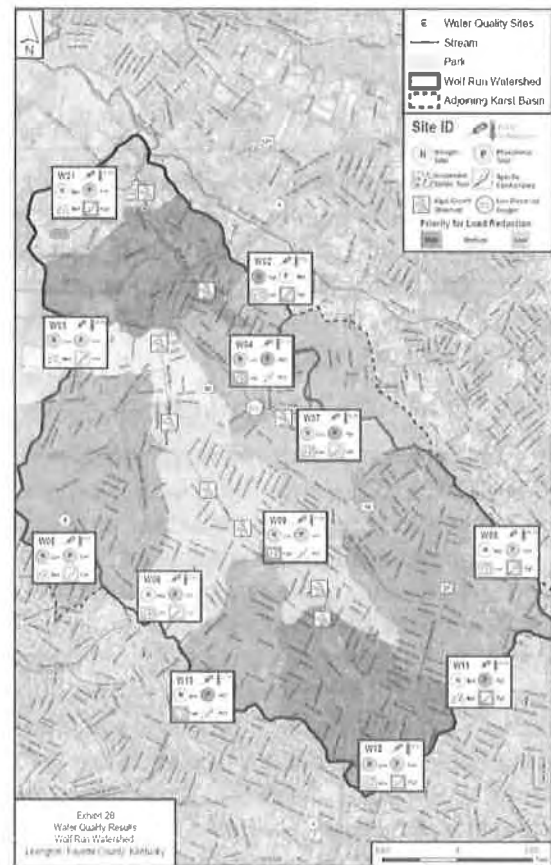


INTEGRATIVE WATERSHED APPROACH

Professionals within Third Rock have set the standard in Kentucky for watershed planning and this specialized experience with implementing watershed planning using available resources. Moreover, Third Rock authored the first comprehensive watershed plan approved in Kentucky for the Laurel/Little Laurel River watershed and since authored the majority of 319(h) grant funded watershed plans in Kentucky including Hanging Fork, Clarks Run, Wolf Run in Lexington, and currently Chestnut Creek. These watershed plans have been utilized to develop TMDLs as well as implementation plans to address the loading allocations in these plans.

Data and information gathered for Consent Decree/MS4 Permit compliance is valuable and should be used to support overall resource planning in LFUCG's watersheds. The Third Rock watershed approach uses extensive GIS mapping/analysis to organize and interpret all available data and monitoring results in order to effectively target and prioritize locations for supplemental environmental projects or best management practices (BMPs), including stormwater wetlands, bioretention areas, stream and wetland restoration, riparian enhancement, land preservation, public education, and the development of ordinances to guide low-impact development. Integrative watershed planning identifies opportunities to achieve layers of use from a project, 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.

This 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, Third Rock scientists identified the causes and sources of impairment in the catchments and then enjoined non-technical citizens and stakeholders in developing a best management plan 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. Third Rock knows 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.

SALT RIVER ENGINEERING'S SPECIALIZED EXPERIENCE AND TECHNICAL COMPETENCE

Salt River Engineering is a Veteran-Owned Small Business located in Harrodsburg, Kentucky that provides engineering services for the municipal sector, including LFUCG and other cities in the Bluegrass Area Development District. Their core services are utility financing, construction management, and engineering design. They will provide technical support on the MS4 project, including technical writing and review of engineering/environmental reports.

TEAM REFERENCES

Tetra Tech is proud to provide clients as viable references for similar projects. Our references are familiar with the extra effort put forth by our staff to establish and maintain good working relationships with our clients. The following references can attest to Tetra Tech's character and reputation.

CHARLES MARTIN, PE

Director of the Division of Water Quality
Lexington-Fayette Urban County
Government (LFUCG)
859.425.2400
chmartin@lexingtonky.gov

JENNIFER CAREY, PE

MS4/Water Quality Section Manager
LFUCG Division of Water Quality
859.425.2482
jcarey@lexingtonky.gov

GREGORY S. LUBECK, PE, CFM

Stormwater Section Manager
LFUCG Division of Water Quality
859.258.3446
glubeck@lexingtonky.gov

STEVE BOURNE

Hopkinsville Surface and Stormwater Utility
270.887.4285
sbourne@comdev-services.com

CARRIE RIVETTE, PE

City of Grand Rapids, Stormwater Manager
616.456.3000
crivette@grand-rapids.mi.us

KELLY KARLL

Southeast Michigan Council of Governments
(SEMCOG), MI
313.324.3375
Karll@semcog.org

SECTION 3

Demonstrated Capacity of the Person or Firm to Perform the Work



TETRA TECH

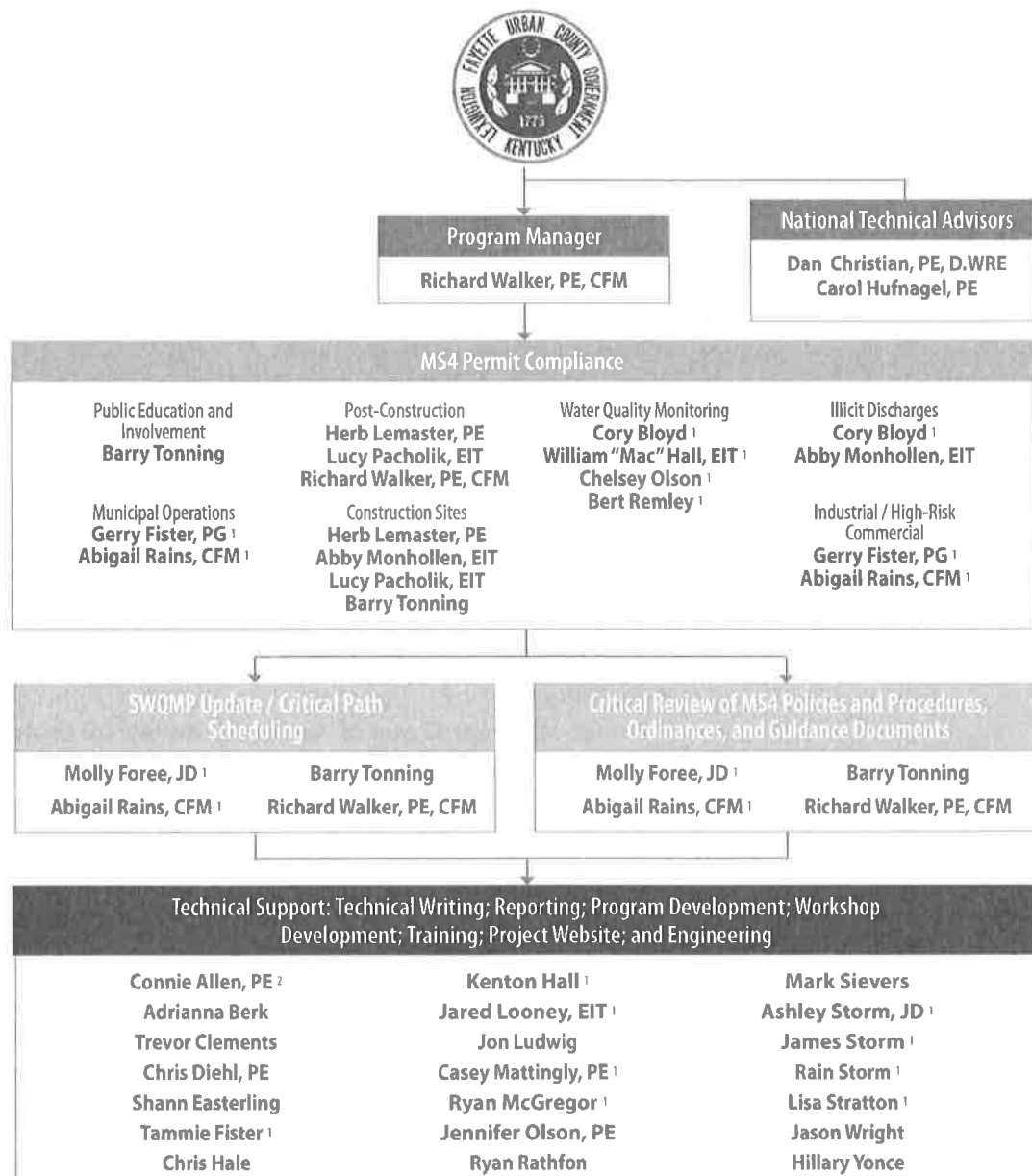
Section 3: Demonstrated Capacity of the Firm to Perform the Work

TEAM ORGANIZATION CHART

The Tetra Tech team organization chart is shown below. Richard Walker, PE will serve as the project manager for the next contract as he has done for the last 12 years. The team supporting Richard will consist of engineers, regulatory policy analysts, biologists, geologists, and environmental scientists assigned to the three main task areas: MS4 Permit compliance, SWQMP update,

and review of LFUCG's MS4 policies, procedures, ordinances, and guidance documents. The team also includes staff with national MS4 experience.

Table 3-1 Key Staff Qualifications and brief staff bios follow the organization chart. The team has ample capacity to perform the work as shown in Table 3-2 at the end of this section.



¹ Third Rock Consultants ² Salt River Engineering

KEY STAFF CREDENTIALS

TABLE 3-1: KEY STAFF QUALIFICATIONS

KEY STAFF MEMBER	YEARS OF EXP	CREDENTIALS
Richard Walker, PE, CFM	37	- MS, Civil Engineering (Water Resources); BS, Agricultural Engineering - MS4 Program Manager, 2008–2020 - Certified Floodplain Manager - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Herb Lemaster, PE	30	MS/BS, Civil Engineering
Lucy Pacholik, EIT	4	- MS/BS, Civil Engineering - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Abby Monhollen, EIT	2	- BS, Civil Engineering - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Mac Hall, EIT	2	- BS, Civil Engineering - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Carol Hufnagel, PE	35	- MS/BS, Civil Engineering - National Wet Weather Practice Leader for Tetra Tech
Dan Christian, PE	30	- MS/BS, Civil Engineering - Diplomate, Water Resources Engineer - National Green Infrastructure Practice Leader for Tetra Tech
Barry Tanning	34	- MA, Environmental Risk Communication; BA Journalism - Certified Erosion, Sediment, and Storm Water Inspector - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Molly Foree, JD	27	- JD, University of Kentucky College of Law; BA, English - Principal, Third Rock Consultants, LFUCG Project Manager
Abigail Rains, CFM	29	- BS, Biology - Former MS4 Coordinator of the Commonwealth of Kentucky - Certified Floodplain Manager - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Bert Remley	23	- MS, Biology; BS, Biology - Society of Freshwater Science Taxonomic Certification for Eastern EPT, <i>Chironomidae</i>, and General Arthropods
Cory Bloyd	15	- BS, Civil Engineering - Qualified Inspector, Kentucky Erosion Prevention and Sediment Control
Gerry Fister, PG	33	- BS, Geology - Senior Environmental Planner / Project Manager
Chelsey Olson	19	MS, Biology; BA, Biology

KEY STAFF BIOGRAPHIES



RICHARD WALKER, PE, CFM
(TETRA TECH)

Mr. Walker has served as the MS4 program manager for LFUCG since 2008, and he is responsible for maintaining the City's compliance with the MS4 Permit and the stormwater provisions in the EPA Consent Decree. He has 37 years of experience in program management, civil and water resources engineering, hydrologic/hydraulic modeling, and stormwater/floodplain management. He has developed stormwater design manuals for municipalities that contain requirements for post-construction runoff, erosion prevention and sediment control, and green infrastructure. In addition, he has assisted cities with implementing stormwater utilities. He helped develop the statewide erosion and sediment control field guide and technical manual. In addition, he is the primary author of the LFUCG *Stormwater Manual* and the *Procedures Manual for Infrastructure Development* and has been involved with the LFUCG MS4 program for the last 26 years. Richard is Tetra Tech's Kentucky Operations Manager and has the authority to assign any needed staff across the country to LFUCG's projects. Richard is organized, diligent, and committed to surpassing the expectations of every client he serves. He will serve as the Project/Program Manager on the project.



HERBERT LEMASTER, PE
(TETRA TECH)

Mr. Lemaster is a Senior Engineer in the Lexington office with 30 years of experience. 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. He was involved in developing the standardized technical specifications for the LFUCG Division of Water Quality (DWQ) Stormwater Section. In addition, he has developed erosion and sediment control plans for numerous clients in Kentucky. Mr. Lemaster was the engineer-of-record on the LFUCG Walhampton Stormwater Improvements Project and the

Firethorn Detention Basin Improvements Project. He has 24 years of experience with LFUCG's MS4 Program and will provide expertise on the construction feasibility and effectiveness of erosion and sediment controls and stormwater controls. Herb has the technical competence and relationships with state regulators to provide unmatched value in this role.



LUCY PACHOLIK, EIT
(TETRA TECH)

Ms. Pacholik is a civil engineer and has been involved with LFUCG's program for three years. She was the project engineer on the Firethorn Detention Basin Improvements project and has reviewed site plans for compliance with the LFUCG Stormwater Manual. She is familiar with LFUCG's greenway program and has updated the greenway GIS inventory. Ms. Pacholik is proficient in ArcGIS and the PondPack Hydrologic/Hydraulic model and is a qualified inspector by the Kentucky Erosion Prevention and Sediment Control Program. Lucy developed a detailed spreadsheet of deliverables associated with the MS4 Permit, Consent Decree, and Stormwater Quality Management Program that has simplified the tracking process. Her knowledge of the program and its analytics will lead to further efficiencies in the next contract. She is familiar with all aspects of the MS4 program and will support Mr. Walker and Mr. Lemaster on the design and construction issues related to MS4 infrastructure and erosion and sediment control.



ABBY MONHOLLEN, EIT
(TETRA TECH)

Ms. Monhollen is a civil engineer and has worked extensively on LFUCG's MS4 program over the last year. She assisted the MS4/Water Quality Section Manager with compiling the 2018 MS4 annual report; updating the storm sewer outfall inventory; and preparing state and federal permit applications for detention basin maintenance. She is a qualified inspector by the Kentucky Erosion Prevention and Sediment Control Program. Abby is familiar with all aspects of the MS4 program and excels at delivering

high-quality work within tight deadlines. She will assist Mr. Walker with maintaining the SharePoint project documentation database, tracking the MS4 Permit and Consent Decree requirements and deadlines, providing engineering support on the other MS4 tasks, and project management.



MAC HALL, EIT
(THIRD ROCK)

Mr. Hall is a civil engineer with two years of experience on the MS4 program. In his role as the data manager for LFUCG's MS4 Water Quality Monitoring and Watershed-Focused Monitoring Quality Assurance Project Plans,

he is involved in every aspect of these programs from grab sampling to statistical analysis of resulting data. He coordinates Third Rock's subcontract labs and quality assurance, including review and reconciliation of all electronic data deliverables. Over the last two years, he has also played a key role in LFUCG's watershed-focused monitoring program, with various responsibilities including calculating pollutant loadings and isolating them to sub-watersheds for incremental analysis. Mr. Hall is highly organized, pays attention to the details, and will continue providing this level of commitment going forward.



CAROL HUFNAGEL, PE
(TETRA TECH)

Ms. Hufnagel has 35 years of experience working on consent decree programs and stormwater programs with major cities nationwide. This work is built on her background in sanitary

sewer and stormwater systems, which has included hydrologic and hydraulic analysis, selection and implementation of a wide variety of control technologies, regulatory and financial assessments, and public and stakeholder outreach. Ms. Hufnagel has led, had significant involvement in, or provided technical consultancy to green infrastructure programs in Detroit, Omaha, St. Louis and Pittsburgh (3 Rivers Wet Weather). These widely varying institutional settings highlight the critical importance of tailoring green infrastructure to the community circumstances, priorities, and opportunities. She also led the

development of the WEF publication, "Green Infrastructure Implementation," with a primary focus on programmatic aspects of green infrastructure and how to implement it from an institutional perspective. She will serve as a technical advisor to Mr. Walker and provide insight to best practices used within the MS4 programs in Lexington's peer communities.



DAN CHRISTIAN, PE, D.WRE
(TETRA TECH)

Mr. Christian has assisted numerous municipalities with MS4 and stormwater projects over his 30-year career. His 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, and hydrologic/hydraulic studies. 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. He will serve as a technical advisor for post-construction stormwater management, including the design and construction standards for conventional stormwater controls and green infrastructure. LFUCG will benefit from Dan's national experience in performing this work for similar MS4 communities.



BARRY TØNNING
(TETRA TECH)

Mr. Tønning has had extensive involvement with LFUCG staff in the development of their Construction Site Runoff Control Program over the last 12 years. In addition, he developed

the TMDL Strategy for LFUCG using an extensive stakeholder involvement process. He 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 with a total of 34 years of experience. 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 nationwide. He also has extensive experience as a workshop presenter for the federal, state, and local governments. He is the preeminent erosion and sediment control trainer in Kentucky and developed the statewide erosion and sediment control field guide and technical manual. Barry has applied his diverse background to LFUCG's MS4 program, has a deep understanding of water quality issues in Fayette County, and is dedicated to applying practical and common sense BMPs to improve water quality. He will provide program management support, training, and program evaluation going forward.



MOLLY FOREE, JD
(THIRD ROCK)

Ms. Foree is an environmental attorney with 27 years of experience and the principal of Third Rock Consultants. She has extensive experience with EPA and state environmental regulations related to 404 permitting, MS4 Permit compliance, and stream sampling protocols. She has provided consulting services to LFUCG over the last 20 years and is dedicated to delivering high-quality services that meet the requirements of the MS4 Permit. She will provide legal review and analysis of issues that may arise related to stream mitigation, mitigation banking, and the requirements of the U.S. Army Corps of Engineers and Kentucky Division of Water. In addition, she will provide legal review of the draft MS4 Permit—she is committed to working with LFUCG and Kentucky Division of Water (KDOW) to create a long-term monitoring program that provides both meaningful information to LFUCG while doing so with a reasonable cost.



ABIGAIL RAINS, CFM
(THIRD ROCK)

Ms. Rains is an environmental scientist with 29 years of experience who served as the former MS4 Coordinator with the Commonwealth of Kentucky. She is a qualified inspector by the Kentucky Erosion Prevention and Sediment Control Program. Abigail has extensive experience with the MS4 programs in Kentucky and EPA Region 4 and was the permit writer for LFUCG's MS4 Permit in 2009 and 2015 while working for KDOW. This experience provides unique insight into the mindset of the permit writers as LFUCG begins negotiations with KDOW on the pending MS4 Permit renewal. She is dedicated to working with LFUCG and KDOW to develop permit language that will produce meaningful information and result in long-term improvement in stream water quality in Fayette County.



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, he 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 assessments for threatened and endangered species in Kentucky and Tennessee including numerous bat, fish, and mussel species. He holds certifications from the Society for Freshwater Science to identify macroinvertebrates and is certified by the Ohio Environmental Protection Agency to collect, identify, and evaluate macroinvertebrates. Bert is passionate about his work and is constantly seeking to understand and demonstrate how stream water quality is changing over time in Fayette County. This passion serves LFUCG well by providing meaningful

data that minimizes the investment of the citizens. Bert has supported the LFUCG MS4 Program for 25 years and will serve as lead biologist on all biological monitoring requirements of the MS4 Permit.



**CORY BLOYD, CPESC
(THIRD ROCK)**

Mr. Bloyd is an Environmental Technician who has spent his 15 years of experience involved in a broad spectrum of projects at Third Rock that combine his expertise in environmental science, geographic information systems, hazardous materials, and environmental construction. He routinely conducts surveying for aquatic and terrestrial species, including those listed as threatened and endangered, and is a PADI-certified Open Water and Nitrox Certified Diver. He plays an integral role in Third Rock's water quality studies, having served as the field team leader for a large, multi-county study from 2006 to 2008 and is currently serving as field team leader on an ongoing study in Lexington. Mr. Bloyd is a Qualified Erosion Prevention and Sediment Control (EPSC) Inspector for Kentucky, Tennessee, and Louisville MSD and is currently serving as the lead EPSC inspector for the ongoing downtown crossing of the larger Ohio River bridges project. Cory is highly organized and committed to doing what it takes to meet the monitoring requirements of the MS4 Permit – including field work on weekends and at night to capture rain events. Cory has supported the LFUCG MS4 Program for 10 years and will serve as the field team leader on all monitoring activities required by the MS4 Permit.



**GERRY FISTER, PG
(THIRD ROCK)**

Mr. Fister is an Environmental Planner with 33 years of experience. He 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. He also supports projects that have a groundwater quality component, particularly with karst groundwater considerations in Fayette County. He has over 30 years of experience

in data-gathering techniques, federal and state environmental regulatory programs, site mapping techniques, surface geology elements, and technical writing for NEPA documentation. He has worked on LFUCG's program for 15 years and will provide technical support for activities related to the inspection of municipal waste facilities and industries.



**CHELSEY OLSON
(THIRD ROCK)**

Mr. Olson has 19 years of experience in watershed planning, water quality monitoring, and best management practices. His GIS analysis and mapping expertise is essential to Third Rock's watershed-focused monitoring for LFUCG. His experience in GIS analysis, statistical analysis, and data management is invaluable when evaluating causes of watershed impairment, assessing potential sources of pollution, linking pollutant loading to suspected land uses, and identifying environmentally sensitive areas. He routinely identifies aquatic members of the phyla Arthropoda, Mollusca, and Annelida to genus/species and has processed hundreds of LFUCG samples over the last 15 years. He is passionate about presenting LFUCG monitoring data that tells a story and can be easily understood by non-technical people. He will continue to provide this expertise on the project.

STAFFING INFORMATION AND AVAILABILITY

Our proven record of past performance brings a sense of trust that we make the required staff available to complete our assignments on schedule. Our team members have established working relationships with LFUCG. We clearly understand LFUCG's needs and the staffing requirements based on our performance to date. This contract will be our team's top priority, and we will successfully manage the MS4 Program into the future. Table 3-2 on the following page presents our team's availability for the duration of this contract.

TABLE 3-2: KEY STAFF AVAILABILITY

TEAM MEMBER	FIRM	ROLE	% OF TIME AVAILABLE	EXPERIENCE AREAS	BENEFITS TO LFUCG	LOCATION
Richard Walker	Tetra Tech	Project/Program Manager	50%	Program Management, Consent Decree and MS4 Permit Implementation	Dedicated to compliance, has 26 years of experience with LFUCG's MS4 program	Lexington
Herb Lemaster	Tetra Tech	Principal Project Engineer	30%	Erosion/Sediment Control (ESC) Stormwater Management	Expertise on practical applications of stormwater controls	Lexington
Lucy Pacholik	Tetra Tech	Principal Project Engineer	50%	MS4 Permit compliance tracking	Developed tracking tools for compliance	Lexington
Abby Monhollen	Tetra Tech	Principal Project Engineer	75%	MS4 Annual Report, SharePoint database	Familiar with all aspects of the MS4 program and documenting compliance	Lexington
Mac Hall	Third Rock	Principal Project Engineer	50%	Engineering, Water Quality Monitoring	Committed to a highly-organized and effective monitoring program	Lexington
Carol Hufnagel	Tetra Tech	National Technical Advisor	10%	Consent Decrees, MS4 Implementation	Provide national perspective on stormwater programs of peer communities	Ann Arbor, MI
Dan Christian	Tetra Tech	National Technical Advisor	20%	Stormwater design, Green Infrastructure	Provide national perspective on stormwater design and Green Infrastructure	Lansing, MI
Barry Tanning	Tetra Tech	Policy Analyst	30%	Erosion and sediment control, TMDLs	Recognized water quality expert locally and statewide	Lexington
Molly Foree	Third Rock	Policy Analyst	50%	MS4 Regulations, 404 permitting, monitoring	Develops monitoring plans that provide meaningful data	Lexington
Abigail Rains	Third Rock	Policy Analyst	80%	MS4 permits and compliance	Her input on draft permit will produce meaningful results for LFUCG	Lexington
Bert Remley	Third Rock	Environmental Scientist	80%	Water Quality Monitoring	25-year history with the stream water quality in Fayette County	Lexington
Cory Bloyd	Third Rock	Environmental Scientist	80%	Water Quality Monitoring	Long-term understanding and dedication to the monitoring program	Lexington
Gerry Fister	Third Rock	Environmental Planner	50%	Stormwater permitting for industries	Clear understanding of environmental regulations	Lexington
Chelsey Olson	Third Rock	Environmental Scientist	90%	GIS Data Analysis and Mapping	Visual presentations of water quality results	Lexington

SECTION 4

Past Record and Performance



TETRA TECH

Section 4: Past Record and Performance

OVERVIEW

This section provides an overview of similar stormwater and wet weather projects performed by the Tetra Tech team for LFUCG and other clients. Similarities among these projects are highlighted in matrix format, showing the relationship among the current scope and these projects.

PROJECTS WITH LFUCG

The Tetra Tech team has enjoyed a 30-year working relationship with LFUCG. Below is a partial listing of current and completed stormwater-related projects, performed on schedule and within budget for the LFUCG. As part of these programs, the quality of work, control of costs, and ability to meet schedules has been maintained. For example, under the current MS4 program management contract for LFUCG, we have worked in a collaborative manner with your staff to complete MS4 permit milestones on time and in a cost-effective manner.

Through the work completed to date, the products Tetra Tech has produced have met with the approval of LFUCG staff and the public has been supportive of the program:

- MS4 Annual Program Management Services
- Development of the Stormwater Quality Management Program (SWQMP) as part of the EPA Consent Decree Negotiations
- Stormwater Manual
- Procedures Manual for Infrastructure Development
- Vaughns Branch / Sugar Mill Flood Mitigation
- Danby Corners FEMA Letter of Map Revision
- Expansion Area 2 Stormwater Master Plan
- Southland Drive Drainage Study
- North Elkhorn Hydrologic and Hydraulic Model
- Town Branch Hydrologic and Hydraulic Model
- Detention Basin Maintenance Program
- Firethorn Detention Basin Improvements
- Walhampton Stormwater Improvements
- Wolf Run Wet Weather Storage
- West Hickman Wet Weather Storage
- MS4 Permit Stormwater Monitoring

SIMILAR PROJECTS

The following 18 similar projects shown in this section are a sampling of relevant MS4 and stormwater projects our team has completed within the last 15 years.



MS4 Program Areas

LFUCG MS4 PROGRAM MANAGEMENT



TETRA TECH



Tetra Tech, supported by Third Rock Consultants, has been providing annual stormwater program management services since 2008 for implementing Lexington's EPA Consent Decree and the Municipal Separate Storm Sewer System (MS4) Permit issued by the Commonwealth of Kentucky. During that time, the Tetra Tech/LFUCG team has achieved compliance with all aspects of the MS4 program as evidenced by the following:

- Met all 152 MS4 permit requirements, along with 167 measurable goals in LFUCG's Stormwater Quality Management Program
- Met all 40 stormwater performance standards in the consent decree
- The Kentucky Division of Water inspected LFUCG's MS4 program in 2010, 2012, 2016, and 2019 found no deficiencies
- Developed new ordinances for the industrial stormwater discharge program, maintenance of stormwater controls on private property, and erosion control
- Developed a TMDL implementation strategy to demonstrate compliance with the MS4 permit
- Prepared the MS4 annual reports (2008–2013)

Erosion and Sediment Control Compliance

- Conducted audit inspections of over 70 construction sites
- Attended pre-bid and pre-construction meetings on capital projects and gave ESC presentations on the permitting, inspection, and enforcement procedures
- Conducted training for LFUCG staff on construction site inspections
- Conducted an annual workshop with over 75-100 construction industry representatives on erosion and sediment control and stormwater management

Post Construction Stormwater Management Compliance

The work included the following:

MS4 Permit Compliance

- Prepared the application for the 2014 MS4 permit renewal and assisted LFUCG management in the permit negotiations with the Kentucky Division of Water
- Planned and prepared the necessary documentation for MS4 compliance inspections by the Kentucky Division of Water in 2010, 2012, 2016, and 2019
- Developed the MS4 Stormwater Quality Management Program, including sections on public involvement, illicit discharges, construction site runoff, industrial runoff, water quality monitoring, municipal operations, and post construction



LOCATION:
Lexington, KY

OWNER:
Lexington-Fayette Urban
County Government

DURATION:
2008 - Present

PROJECT STAFF:

Richard Walker, PE, CFM
Program Manager

Barry Tanning
Senior Policy Analyst

Abby Monhollen
Project Engineer

Lucy Pacholik
Project Engineer

Molly Foree, JD
Third Rock Project Manager

Abby Rains, CFM
Senior Environmental Analyst

Bert Remley
Senior Aquatic Ecologist

Casey Mattingly, PE
Water Resource Engineer

Cory Bloyd
Project Ecologist

Chelsey Olson
Project Ecologist / GIS Analyst

William "Mac" Hall, EIT
Project Engineer

RELEVANCE TO LFUCG:

MS4 Program Manager since 2008—Provided services as described in the current RFP

- Assisted staff with applying the requirements of the Stormwater Manual to proposed development plans

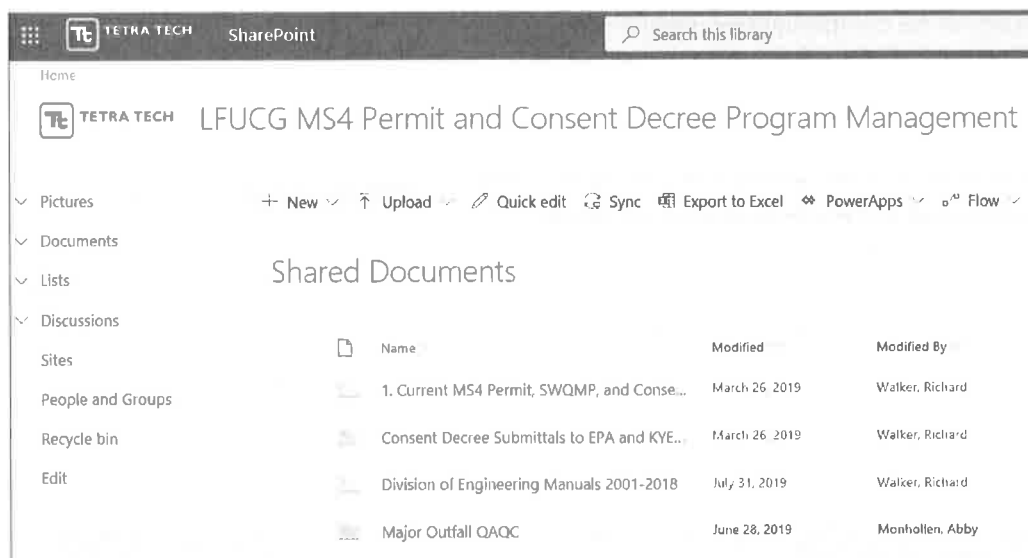
Worked as an Extension of Staff

- Conducted monthly coordination meetings with approximately 30 city staff to review deadlines and work completed on the MS4 Permit and Consent Decree requirements.
- Developed enforcement response plans for construction sites, post-construction, industrial facilities, and illicit discharges
- Facilitated meetings with the Division of Water Quality, Division of Engineering, and Division of Environmental Services to resolve issues related to the permitting, inspection, and enforcement of erosion and sediment control BMPs.

- Developed standardized construction specifications for erosion/sediment control and stormwater infrastructure (storm sewer pipe, manholes, etc.)
- Developed stormwater pollution prevention plans for two wastewater treatment plants
- Developed an inventory of industrial facilities and high-risk commercial facilities
- Maintained a SharePoint site of Consent Decree and MS4 Permit deliverables for access by LFUCG staff
- Updated the storm sewer outfall inventory

MS4 Water Quality Management Fee

- Provided project management and technical support for implementing the water quality management fee in 2010 that generates approximately \$13 million per year



We maintained a SharePoint site of Consent Decree and MS4 permit deliverables accessible by LFUCG staff



Annual MS4 Workshop



Erosion and Sediment Control Field Training

Water Quality/Watershed-Focused Monitoring

Third Rock developed and implemented LFUCG's permit-required water quality monitoring programs to ensure LFUCG fulfills the requirements of its Phase I MS4 Permit while meeting the commitments of its EPA consent decree.

Permit required water quality monitoring tasks include:

- Quarterly dry and wet weather water quality monitoring at seven watershed sites
- Annual macroinvertebrate and habitat assessment at seven watershed sites including identification of macroinvertebrate samples by Society for Freshwater Science-certified taxonomists
- Bi-annual fish monitoring at seven watershed sites
- Annual reporting of monitoring data with comparison to benchmarks and past data. Reporting includes Watershed Technical Water Quality Evaluations for comprehensive watershed specific analyses including load duration curves, and a "Summary Status Rating" to characterize overall stream
- Maintenance of water quality monitoring database
- Development and implementation of a Water Quality Monitoring Program Evaluation during each 5-year permit cycle
- Statistical analysis of trends in water quality for each 5-year period permit cycle

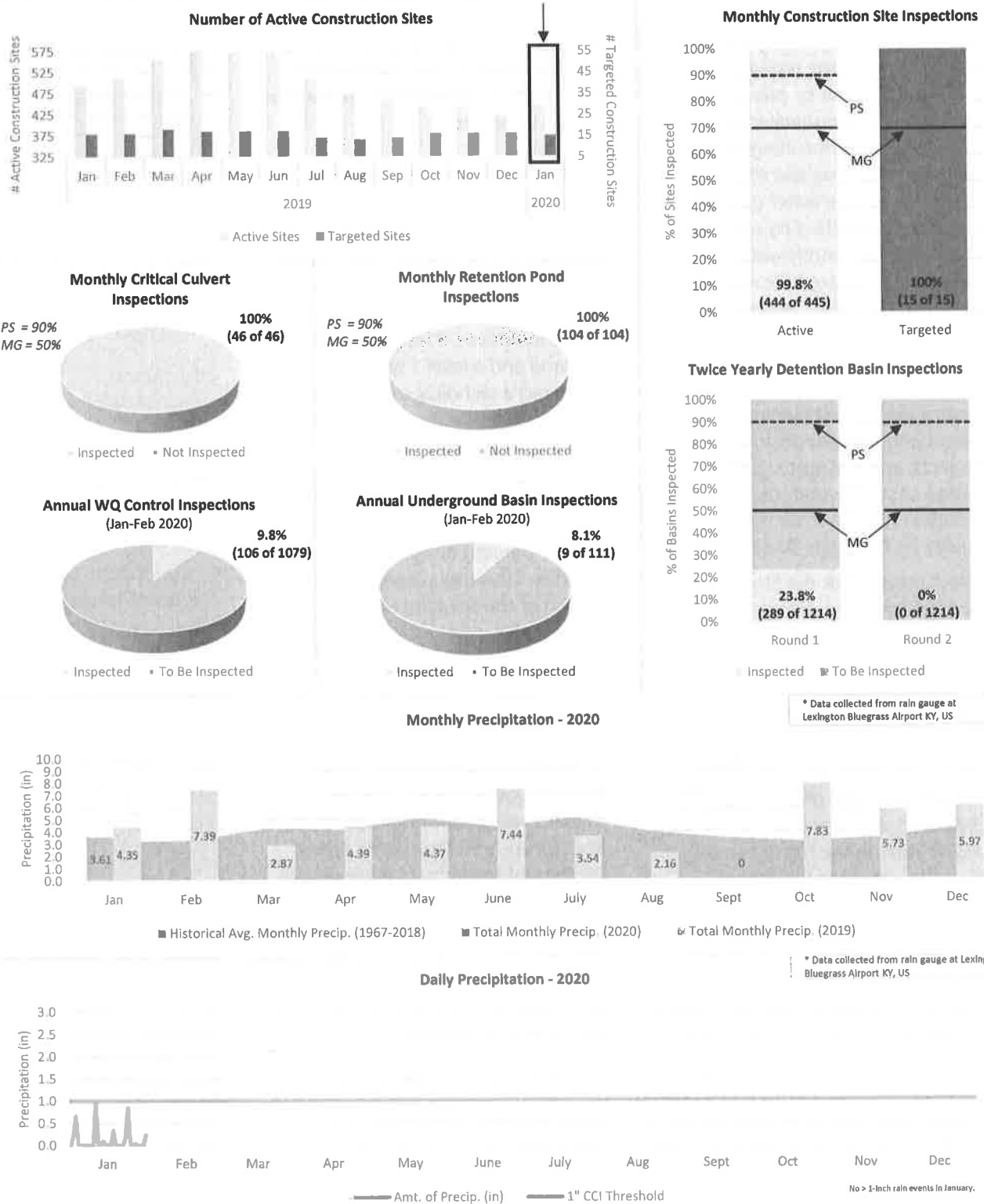
In addition, in 2015 LFUCG committed to begin to transition its water quality monitoring program to a watershed-focused approach. The study area for LFUCG's Watershed-Focused Monitoring Program (WFMP) encompasses the seven major watersheds that drain LFUCG's Urban Service Area including Cane Run, South Elkhorn Creek, West Hickman, East Hickman Creek, Town Branch, North Elkhorn Creek, and Wolf Run. The overall objective of the WFMP is to collect and generate data to identify and remediate sources of recreational and aquatic habitat impairments to streams within the Urban Service Boundary by conducting the following monitoring elements within each watershed:

1. Stream Corridor Characterization
2. Biological Monitoring
3. Water Quality Monitoring
4. Discharge Prevention / Source Investigation
5. Priority Area Upland Visual Assessment

The WFMP dictates a staggered monitoring schedule, with monitoring within the Cane Run watershed in 2016-17, South Elkhorn in 2017-18, West Hickman in 2018-19, and so on through 2023. Third Rock most recently completed monitoring within the West Hickman watershed. For example, Third Rock staff worked between June 5 and September 19, 2018 to assess 26.46 miles of stream within the 22.2 square mile (14,217 acres) watershed, including West Hickman Creek and the unnamed tributary targeted for restoration.



February 2020

Performance Standard (PS) / Measurable Goal (MG) Dashboard

Consent Decree and MS4 Permit Inspection Requirements

VIRGINIA BEACH MS4 AND ENVIRONMENTAL MANAGEMENT SERVICES



Tetra Tech is assisting the City of Virginia Beach Stormwater Management Regulatory Division in complying with the requirements of the MS4 permit by providing a full range of stormwater and environmental consulting services including planning and engineering design to achieve water quality improvements. The City of Virginia Beach manages stormwater across nearly a 500 square mile area which drains north to the Chesapeake Bay and east toward the Atlantic Ocean. Support includes program support, developing and applying watershed-based planning tools, identifying and prioritizing potential projects, and conceptual and full design of stormwater management facilities (SWMFs) to improve water quality and mitigate flooding.

Select projects for the Stormwater Management Regulatory Division include:

North Landing River Watershed BMP Prioritization

Assisted the City in meeting MS4 TMDL requirements in providing a reduction in total phosphorus (TP). Evaluated all parcel and right-of-way (ROW) areas in the North Landing River watershed to determine site-specific feasibility for SWMF implementation. Performed primary screening to eliminate unsuitable sites and develop a baseline list of parcels and ROWs potentially suitable for SWMFs. Prioritized and ranked sites on suitability and feasibility based on extensive geospatial criteria, scoring, and weighting. Four lists of feasible sites and their rankings were developed: publicly-owned parcels, privately-owned parcels, ROW areas, and existing SWMFs eligible for retrofit. Determined TP load reductions for

sites, preliminary design costs, and conceptual design details that can be included in a CIP program for the top ten sites that provide the greatest volume and pollutant load reductions for the lowest cost.

Lynnhaven Park BMP Redesign

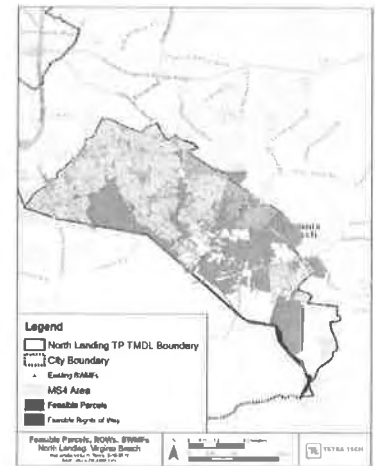
Evaluated the existing SWMF and performed field assessment including a geotechnical analysis, topographic survey, and utility survey. Developed preliminary engineering design for two alternatives, a level 1 constructed wetland and a level 1 wet pond and prepared a technical memorandum describing a side-by-side analysis of the cost and nutrient removal efficiency of both options. Submitted a drainage report, hydraulic and nutrient loading analysis, hydraulic analysis and 30-percent design plans for both options. Currently scoping detailed design of the selected SWMF option.

Indian River Road BMP Retrofit

Performed site assessment, including a geotechnical evaluation, topographic survey, and utility survey, to determine site constraints and identify opportunities to install a SWMF. Evaluated multiple proprietary and non-proprietary SWMF types. Performed preliminary engineering design including hydrologic and hydraulic analysis. Compiled all of the site data and analysis into a stormwater report and developed 30-percent preliminary design plans of the SWMFs best suited to that site.

Street Sweeping Optimization

Collected and reviewed street sweeping data to understand the data inventory, characteristics, and completeness. Evaluated the data to determine the street sweeping frequency and lane miles swept for



LOCATION:
Virginia Beach, VA

OWNER:
City of Virginia Beach

DURATION:
2018 – Ongoing

PROJECT STAFF:
Jason Wright
Project Engineer

Hillary Yonce
Hydrologic Modeling

RELEVANCE TO LFUG:

MS4 Implementation program for large municipality

Evaluated effectiveness of control measures and recommended changes to compliance plan

Water quality monitoring

Planned for future regulations (TMDLs)

the Chesapeake Bay and Southern Rivers Watersheds. Based on the evaluation, made recommendations for future street sweeping and data collection to improve the street sweeping program, document overall cost effectiveness, ensure MS4 permit compliance, and optimize street sweeping crediting.

Lake Joyce Water Quality Improvements

Evaluated multiple sites in the Lake Joyce watershed to determine site-specific feasibility for SWMF implementation. Recommended a site based on a prioritization process and reported total area treated and phosphorus load reduction for less than \$50,000 per pound. Developed a conceptual design for the recommended site to provide the greatest phosphorus load reduction for the lowest cost.

Illicit Discharge Detection and Elimination (IDDE) Training

Coordinated with the City to determine training objectives and software capabilities for online module with audio files and content for a learning management system training for City staff to provide information on causes and impacts of stormwater pollution, requirements of the City's MS4 permit, what

is (and is not) an illicit discharge, ways to report, and why it is important.

SWMF Review

Reviewed and provided comments on proprietary and non-proprietary SWMFs to be used in ROWs and on City property for recommendations to Operations based on SWMF effectiveness and operation and maintenance (O&M) requirements.

TMDL Mapping

Prepared a custom map of the overall Southern Rivers Watershed to view open areas which may be used to improve water quality.

Mill Dam Creek Stream Restoration Inspection

Evaluated the Mill Dam Creek Restoration Project based on the Inspection form included in the O&M manual developed for the project. Each feature was evaluated, recorded, and photographed. Inspection also included evaluation of Filterra system in the Lynnhaven Park parking lot. Provided recommendations on immediate maintenance needs and recommended managing vegetation and sediment in the long-term.



PRINCE GEORGE'S COUNTY MS4 PERMIT SUPPORT AND TMDL PLANNING



Since 1992, Tetra Tech has held five back-to-back on-call contracts with Prince George's County for multiservice support to meet requirements associated with their MS4 permit. We have completed more than 250 individual task orders for more than \$15 million of support. Through this support, Tetra Tech provided technical support to help the County with watershed restoration and TMDL implementation planning, while providing blueprints for future restoration efforts throughout the County. This restoration planning support has fallen into three main categories: Chesapeake Bay TMDL Watershed Implementation Plan (WIP), local TMDL restoration plans, and other restoration plans.

Tetra Tech developed local TMDL restoration plans for fecal coliform bacteria, nutrients, sediment, biological oxygen demand, and PCBs for the following watersheds: Anacostia River, Patuxent River (Upper, Middle, and Lower), Rocky Gorge Reservoir, Potomac River, Piscataway Creek, and Mattawoman Creek. In addition, Tetra Tech developed a watershed plan for Western Branch.

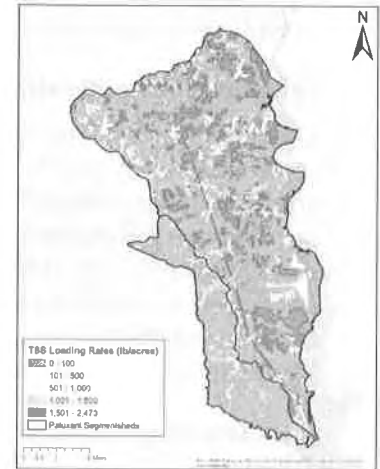
For the WIP and all restoration plans, Tetra Tech initially collects and reviews available data for the watershed including land use, impervious cover, hydrology, climate, soils, water quality monitoring data, biological monitoring data, additional pollutant sources (e.g.,

sanitary sewer over flow and illicit discharge data), existing restoration activities (BMPs and programmatic) and previous watershed assessments.

After characterizing the watershed, Tetra Tech creates a methodology to develop the restoration strategies. This methodology includes how to determine the baseline and target loads. Tetra Tech developed pollutant reduction strategies that encompass both environmental site design (ESD), stream restoration, structural BMPs, and public outreach and other programmatic initiatives.

All the restoration plans quantified pollutant reduction strategies in terms such as impervious acres treated, estimated load reductions, and percent public involvement. The plans also include information on funding sources, cost estimates, implementation schedule, proposed public outreach activities, and how the public can become involved in the restoration process. Finally, the plan included information on restoration progress tracking through water quality and biological monitoring and an adaptive management approach.

Tetra Tech's restoration projects also include public meeting support, with Tetra Tech conducting and organizing public meetings, including arranging for publicity, developing meetings materials (including presentations), providing on-site staffing and logistical



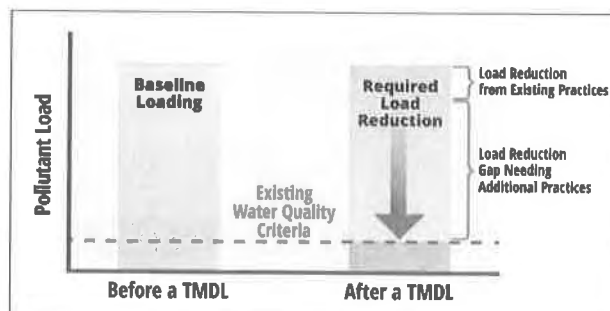
LOCATION:
Prince George's County, MD

OWNER:
Prince George's County,
Department of the
Environment, Stormwater
Management Division

DURATION:
2014 – Ongoing (Multiple
Task Orders)

PROJECT STAFF:
Mark Sievers
Consulting Geologist

Adrianna Berk
Policy Analyst



RELEVANCE TO LFUGG:

MS4 Permit support and TMDL planning for large municipality

support, presenting, participating on the question and answer panel, and developing a meeting summary. Tetra Tech also maintains a website for the County with the public meeting information, watershed restoration documents, watershed characterization reports, and TMDL fact sheets, which Tetra Tech developed.

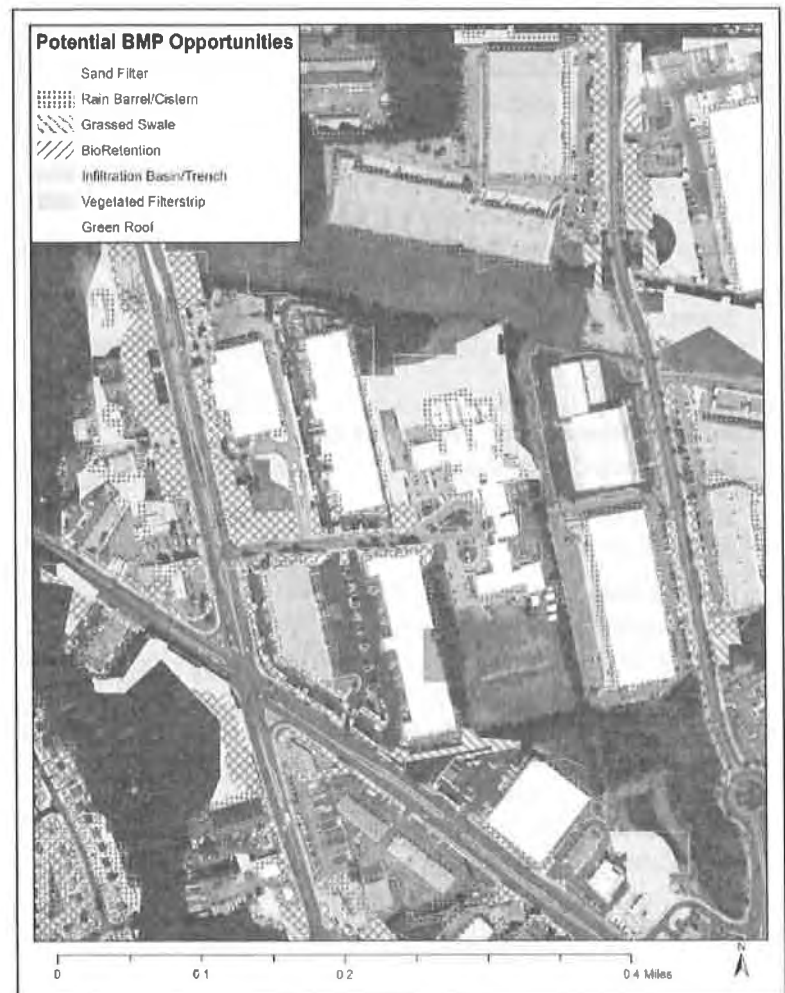
For the 2014 local TMDL restoration plans, Tetra Tech modified the 2013 version of the Watershed Treatment Model (WTM) to calculate the baseline and target loads or traditional ESD practices and stream restoration, in addition to evaluate the benefit of using alternate restoration strategies using land use and impervious cover. The model also incorporated reductions from program initiatives such as tree planting, street sweeping, and lawn care and pet waste campaigns.

For the 2019 local TMDL restoration plans, the Microsoft Excel Solver Add-in was used to determine the most cost-effective scenarios to meet the load reductions. Solver processes a set of conditions to meet the County's objective: the lowest cost.

The main condition was meeting the load reduction targets in every scenario. Other conditions set a range of implementation for ESD practices, outfall stabilization, stream restoration, tree planting, and new wet ponds. For example, one scenario limited ESD practices to treat runoff from 1 to 150 ac of land. Solver then determined the best value in that range for that scenario. For the 2019 local TMDL restoration plans, the final restoration strategy included 8 scenarios of ESD practices, new wet ponds, tree planting, stream restoration, and outfall stabilization, in addition to continued public outreach and education efforts. The scenarios contained different amounts of each BMP type and were presented with the amount of each strategy and estimated costs.

For Western Branch and the 2019 local TMDL restoration plans, Tetra Tech calculated baseline and target loads using the most recent land use and impervious cover data, along with nutrient and sediment loading rates from the Chesapeake Bay model. These loading rates were used to calculate load reductions from best management practices (BMPs). Unlike the local TMDL restoration plans, Tetra Tech ran SUSTAIN's BMP Siting Tool to identify potential BMP opportunities

throughout the Western Branch watershed. The Siting Tool runs in ArcGIS and takes watershed information (e.g., soils, impervious areas) and constraints (e.g., infiltration basins need to be more than 100 feet from building) to identify land where a BMP could be installed. The results were post-processed in ArcGIS to identify those opportunities on municipal land and different properties (e.g., schools, commercial). Tetra Tech used the County's stream corridor assessment data to identify potential stream restoration and outfall stabilization projects. The restoration plan included 4 scenarios for the County to choose from. The scenarios contained different amounts of each BMP type and were presented with the amount of each strategy and estimated costs. The plan also includes a description of how to prioritize of BMP locations using land ownership, site access, known issues, and location in the watershed.



GRAND RAPIDS MS4/STORMWATER MASTER PLANNING, REGULATIONS, AND DESIGN



The City of Grand Rapids, Michigan and Tetra Tech have enjoyed a very long-term relationship on a wide range of stormwater management engineering services. Tetra Tech's current staff has been assisting the City on water resource related projects since 1990. The water resource related work performed over the last three decades have involved a wide range of topics such as policies, procedures, standards, guidance, regulatory compliance, funding, planning, studies, monitoring, modeling, design, construction, site plan review, training, and public outreach. This extensive work has involved both water quantity and quality issues within the municipal stormwater collection system, the natural waterbodies and on private property.

The City of Grand Rapids is 45-square-miles in size and has more than 500 miles of stormwater conveyance infrastructure, including both storm sewers and channels, which discharge to the Grand River or one of its tributaries.

Policies, Procedures, Guidance and Regulatory Compliance

Stormwater Technical Reference Manual

In 1994 Tetra Tech prepared a stormwater technical reference manual for the City. The manual was updated in 2013 to focused on new design standards to meet water quality treatment, channel protection and flood control; updated precipitation records; new hydrologic calculation methods; as well as the use and application of green infrastructure practices for stormwater management. A set of standard construction details for green infrastructure practices was also prepared.

Climate Resiliency

Tetra Tech has worked directly with the U.S. Environmental Protection Agency (EPA) Office of Water on many projects. For one project exploring the linkages between community resiliency and green infrastructure (GI), Tetra Tech organized a charrette in the City with community officials and local stakeholders with future rainfall predictions (intensity-duration-frequency curves for mid-century and end of century conditions).

NPDES MS4 Permit

Tetra Tech worked with the city as a Phase I community to prepare Part 1 and 2 of their NPDES MS4 permit. This work involved reviewing the City's legal authority to control stormwater discharges and preparing and adopting new ordinances needed under the regulations.

Plans and Studies

Stormwater Master Plan

Tetra Tech developed the City's first ever stormwater master plan in the early 1990's, prepared an update to the plan in 2013 and is currently working a second update and integrating the information into the City's comprehensive master plan.

Stormwater Asset Management and Capital Improvement Plan

Tetra Tech developed a 20-year citywide asset management plan for the public stormwater infrastructure system. With over 482 miles of storm sewers and service laterals; 111 miles of open channels and ditches; 27,000 manholes and catch-basins; and 11 pump stations, the current value of the stormwater drainage system is estimated at \$523 million. The



LOCATION:
Grand Rapids, MI

OWNER:
City of Grand Rapids

DURATION:
1990 – Ongoing

PROJECT STAFF:
Dan Christian, PE, D.WRE
Project Manager

RELEVANCE TO LFUCG:

MS4 Permit Compliance
Services, TMDL
Implementation, Post-
Construction Stormwater
Management

complete stormwater system was included in an asset management toolset linked to the City's GIS and Cityworks® system.

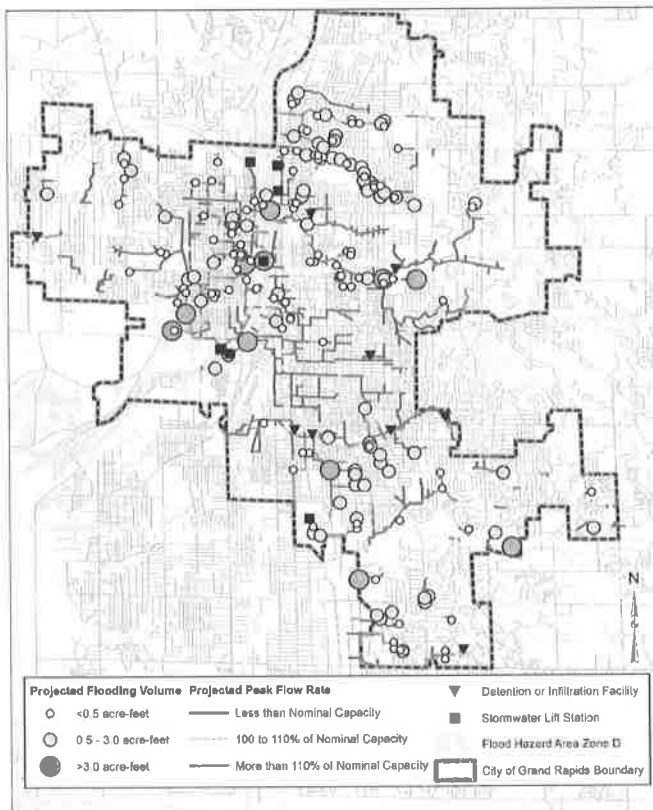
Stormwater Collection System Modeling

Tetra Tech developed and calibrated a SWMM model of the stormwater collection system. The model primarily includes approximately 117 miles of 30-inch diameter and larger pipe network, open channel sections, and critical pumping and storage facilities. Model calibration was completed using a combination of automated optimization software (iPOP) and manual methods. Almost 650,000 model simulations were performed to calibrate the model. Capacity analysis included identifying system bottlenecks using a 10-

year, 24-hour design storm and flooding frequency analysis for a long-term simulation with 53 years of rainfall records.

TMDL Implementation Plan

A Total Maximum Daily Load (TMDL) Implementation Plan was developed laying out an action plan to identify and remove pollutant sources to meet permit requirements. Exceedances of bacteria criteria were observed throughout the recreation season (May to October). Monitoring data suggested that bacteria was entering the river with runoff from the urban area causing the water quality exceedances. Implementing bacteria source controls was recommended first, and secondarily for structural controls.



DETROIT WATER AND SEWERAGE DEPARTMENT GREEN STORMWATER INFRASTRUCTURE PROGRAM MANAGEMENT



In 2010, Detroit Water and Sewerage Department (DWSD) and the Michigan Department of Environmental Quality (MDEQ) negotiated a green infrastructure program to assist in reducing combined sewer overflows to the Rouge River. This program would replace the then proposed Upper Rouge Tunnel (URT). The green infrastructure program is part of DWSD's National Pollutant Discharge Elimination System (NPDES) permit and includes a requirement to invest \$15 million in green infrastructure over the period of 2013-2017 and a performance expectation of 2.8 million gallons 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 their green infrastructure program and its 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, and a wide variety of other institutional partners.

Activities that are being performed by Tetra Tech and our subconsultants under this contract include the following:

Program Management

Tetra Tech provides program management for DWSD's green infrastructure program including project planning, standards development, coordination with agencies and entities, code and ordinance review, and drainage charge credit system. Tetra Tech also manages the design and construction of the GSI projects that are implemented.

Policy Development and Update

Tetra Tech reviewed the City's municipal code and made a variety of recommendations regarding green infrastructure requirements and incentives. Using an internal city technical advisory committee and extensive external stakeholder involvement, Tetra Tech has developed a new post-construction stormwater management ordinance and is updating the code in numerous other places to remove barriers and incentivize green infrastructure. An aspect of the post construction stormwater ordinance is a mechanism to allow alternative compliance by implementing stormwater management in other locations that may both aid the developer in the financial viability of their project and aid DWSD in the control of stormwater to those CSO discharges that are not yet controlled.

Standards and Manual Development

To supplement the ordinance a series of policy and design manuals are being prepared along with associated checklists, standards, specifications, and details. These design guidance materials are specifically geared at the conditions present in the City of Detroit, considering a primary goal of volume control (including both retention and detention) that will reduce the potential for combined sewer overflows. This contrasts with many GSI manuals that are primarily focused on water quality aspects versus volume reduction. The information is being developed for both parcels and public (right-of-way) projects.



LOCATION:
Detroit, MI

OWNER:
Detroit Water and Sewerage Department

DURATION:
2013 - 2021

PROJECT STAFF:
Carol Hufnagel, PE
Program Manager

Dan Christian, PE, D.WRE
Technical and Design Manager



RELEVANCE TO LFUGG:

Program Management
MS4 Policy Development
Stormwater Design Manual
Post-Construction Stormwater Ordinance
Green Infrastructure Design and Construction
Ordinance Reviews

Drainage Charge

Tetra Tech is supporting the City's drainage charge update in the following aspects: policy development, impervious cover analysis, property characterizations, data review and updates, drainage charge credit system development and outreach. The drainage charge is a critical component of DWSD's revenue stream, funding the entirety of the CSO control program capital and operations and the treatment of wet weather flow at the WWTP.

Plan Development

Tetra Tech completed the DWSD Green Infrastructure Plan (update) in August 2014. The Plan considers requirements of the NPDES Permit and will lead to the reduction of storm water inputs into the DWSD combined sewer system, aiding in the reduction of combined sewer overflow discharges. The plan establishes a balanced suite of activities which consider long-term and short-term objectives, and balances institutional structures with project implementation. Green infrastructure project types identified in the plan include green infrastructure on public properties of various types, land assembly and large-scale greening, right-of-way bioretention and curb extensions, street runoff diversion onto parcels and community enhancement projects with parcel and roadway

bioretention and impervious area removal. A significant emphasis is on institutional structures that will result in more GSI through private property actions.

Green Stormwater Infrastructure Geographic Prioritization

In 2016, Tetra Tech updated the prioritization analysis for placement of GSI to specifically address the following criteria: CSO overflow volume reduction (defining what percentage of stormwater runoff converts to CSO discharge); CSO gray infrastructure cost avoided (based on actual defined gray projects and distribution of those costs over the tributary area); areas with severe basement backup; and neighborhoods where GSI interventions could help with stability. This effectively allowed for geographic prioritization based on triple bottom criteria. The result prioritized rankings at a subcatchment level comparable in size to census blocks.

Opportunity Assessment

This effort involves identifying locations where innovative green infrastructure practices could be implemented to reduce CSO discharges, evaluating the locations relative to the projects' ability to impact the combined sewer system, be cost-effective, and provide additional community benefits among other metrics.



Project Implementation

Dependent on project type and lead agency, some components of the green infrastructure program are being implemented as a design-build effort. Tetra Tech is supporting coordination with institutional partners and agencies for implementation of those projects. In addition, a number of foundations and other entities are investing in such efforts community green infrastructure. Facilitating strategic investments is part of this effort. Specific examples of implementation projects include downspout disconnections (residential and non-residential buildings), public facilities flow management, park flow management, demolitions and removal of structures on vacant properties, tree planting, and transportation corridor flow management. Design of these projects requires coordination with multiple agencies, departments and stakeholders throughout the City. Tetra Tech provides design services and assistance in coordinating cross-department goals.

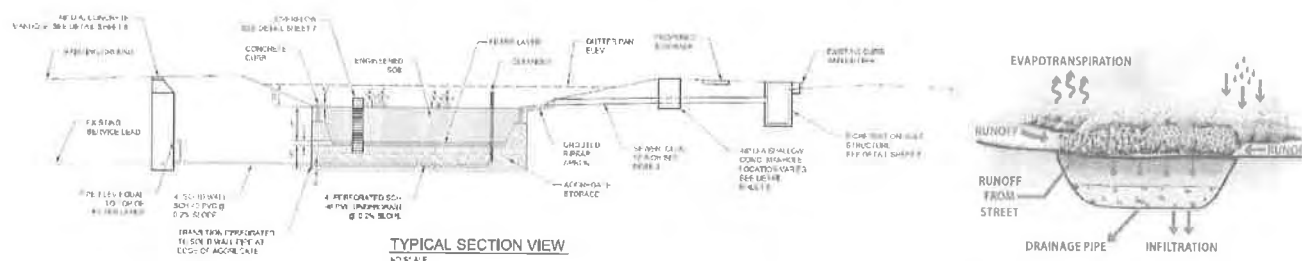
Communication and Outreach

Successful implementation and effective maintenance of green infrastructure requires sustained communication. Tetra Tech led the efforts on behalf of DWSD to communicate, coordinate and collaborate with key partners on both public and private property. Tetra Tech develops and implements project-level outreach strategies, tailored to the goals of the green infrastructure project and the characteristics of the

stakeholders. Outreach elements include project fact sheets, community meetings, presentation materials, stakeholder mailers, DWSD website updates, media events, and coordination with community leaders and organizations prior to, during, and after each project. Tetra Tech worked on behalf of DWSD to contribute to the development of a citywide green infrastructure outreach strategy and branding approach in collaboration with other citywide green infrastructure partners to promote unified green infrastructure messages throughout Detroit.

Performance Assessment

Performance assessments include a broad array of issues such as green infrastructure practice sustainability, community acceptance, comprehensive flow monitoring to determine the change in hydrologic characteristics and plant and vegetation health and growth (for practices with vegetation), accumulation of sediment, accumulation of trash and debris, and soil characteristics. Lessons learned through the assessment process are then incorporated into revisions to the program as part of an adaptive management approach to the green infrastructure program. Tetra Tech is collaborating with the University of Michigan on a research project that addresses social impact of GSI implementation and approaches to maximize social benefits.



GENESSEE COUNTY MS4 PERMIT COMPLIANCE



Tetra Tech began working with Genesee County, its communities, the Genesee County Drain Commission, and the Road Commission on the NPDES Municipal Separate Storm Sewer System (MS4) permits in 2001 and continues to this day. As a part of the project we worked with the 33 communities to develop and apply for the permits in 2002 using a watershed approach. Five major watershed planning areas were delineated within the county and each of the major watersheds was divided into a total of 30-sub watershed planning areas. Community officials, stakeholders and the general public were engaged throughout the process and were consulted in developing the goals, desires and concerns in the watershed. A detailed action plan was prepared to meet the goals and measurables were developed to track progress over time. A plan was formulated to ensure the project is sustained in the future. Watershed management plans were prepared for each of the major five watersheds.

Over the years, we have assisted the County and communities with all aspects of the MS4 permit such as public education and participation, planning, development, implementation and assessment; illicit discharge detection and elimination training, tracking and fieldwork; good housekeeping training and tracking; recommended policy and procedure changes for post construction stormwater control measures; reporting; and permit negotiations. Where possible, we have helped secure outside funding for the program for example through a \$209,000 Clean Michigan Initiative grant to initiate the illicit discharge program.

Tetra Tech has led Genesee County's Illicit Discharge Detection and Elimination (IDDE) program since 2004 (also known as Illicit Discharge and Elimination Program - IDEP in Michigan). We have evaluated over 500 drain miles and more than 8,000 screenings. Investigations include: identifying locations of the outfalls and drains to be investigated; conducting initial screenings during dry weather conditions; recording visual and olfactory observations; collecting water samples for chemical and biological analysis; tracking the source of potential illicit discharges upstream; dye testing; televising if necessary; and storing and tracking all the data in a web-based database. Genesee County selects approximately 20% of its system to evaluate for illicit connections each year.

Recently, we have been helping with education activities focusing on BMP and IDDE training, updating graphics, messaging and the communication approach, developing new education content, and offering some workshops to local consultants. In addition, we review on-going water quality monitoring programs looking for changes and trends in the data. We conduct internal audits of municipal facilities to proactively assist the communities with meeting permit requirements and use these internal audits as an informative training opportunity. Each year we prioritize and conduct illicit discharge field investigations for approximately 250 to 300 outfalls. We attend and help at sub-committee meetings and provide general strategic planning, administrative and as-needed assistance.



LOCATION:
Genesee, MI

OWNER:
Genesee County Drain
Commissioner's Office

DURATION:
2001 - Present

PROJECT STAFF:
Dan Christian, PE, D.WRE
Project Manager



RELEVANCE TO LFUGG:

IDDE, Post-Construction,
Good Housekeeping, and
Reporting Services for
Phase II MS4 municipality

MINNESOTA POLLUTION CONTROL AGENCY MS4 PHASE II PROGRAM SUPPORT



Tetra Tech developed two technical guidance manuals as part of a statewide toolkit to assist the Minnesota Pollution Control Agency in implementing stormwater requirements at small construction sites. The first guidance explained the stormwater regulatory requirements to small construction operators, while the second guidance explained the construction site inspection process to delegated state inspectors.

The Stormwater Compliance Assistance Toolkit for Small Construction Operators is a 44-page guide that explains the MPCA construction stormwater permit, how to develop a stormwater pollution prevention plan (SWPPP), how to select BMP, and how to comply with the permit. In addition, Tetra Tech developed a construction SWPPP template that was included as an appendix.

The Stormwater Construction Inspection Guide is a 32-page document targeted to MPCA construction inspection staff and delegated inspectors. The guide explains how to conduct a construction site inspection, including required preparation before the inspection, entry procedures, records

review procedures, site inspection techniques, and exit interview tips.

The guide also provides tips on what inspectors should look for when inspecting common BMPs. Finally, the guide includes information on enforcement and an example photo log page. Tetra Tech also developed a companion Stormwater Construction Inspector's Field Guide with the critical information needed during a field inspection formatted into a pocket guide.

During 2017 – 2019, Tetra Tech also updated various construction-related chapters of the Minnesota Stormwater Manual, including sections on site stabilization, perimeter control, working in/near surface waters, pit dewatering, chemical treatment, sediment filtration, buffer zones, temporary stream crossings, and BMP removal. Revised sections addressed Construction General Permit relevance and applicability, siting/sizing/design requirements, engineering details, operation/maintenance, cost, and other aspects of each BMP, posted at https://stormwater.pca.state.mn.us/index.php?title=Construction_stormwater_program

LOCATION:
Statewide, MN

OWNER:
Minnesota Pollution
Control Agency

DURATION:
2003 - 2019

PROJECT STAFF:
Jennifer Olson, PE
Project Engineer
Barry Tønning
Technical Consultant



RELEVANCE TO LFUCG:
Expertise with state level perspectives on MS4 program requirements

LFUCG 2016 STORMWATER MANUAL FOR NEW DEVELOPMENT



Tetra Tech updated the city's Stormwater Manual in 2016 to address the stormwater requirements in the EPA Consent Decree (2008) and the state MS4 Permit (2015). The Consent Decree and the permit requires the city to review and update the design standards every three years. Furthermore, the permit established a design standard that requires new development projects to manage the runoff from the 80th percentile rainfall event. Tetra Tech performed the work in our role as the city's MS4 Program Management Consultant.

Key features of the manual include the following:

- Post-construction water quantity and water quality design standards for new development and redevelopment
- Design standards for detention basins, underground detention, and manufactured treatment devices
- Site design standards for green infrastructure, such as soil type, pretreatment, and maximum drain time
- Water quality volume design storm of 1.2 Inches (90th percentile) and runoff reduction volume of 0.80 Inches
- Vegetative buffer zone of 50 feet along streams
- Design standards for storm sewers, culverts, and open channels
- Channel protection design standards
- EXCEL based water quality volume calculation tool
- Executive Summary Stormwater Management Form to demonstrate compliance with the manual
- Flood protection requirements



Stormwater Manual

Lexington-Fayette Urban County Government
Lexington, Kentucky

October 1, 2016

Stormwater Manual Table of Contents

- 1 – Stormwater Management Requirements
- 2 – Permits
- 3 – Watershed Studies
- 4 – Design Documentation
- 5 – Hydrology
- 6 – Inlets/ Storm Sewers / Manholes
- 7 – Culverts and Bridges
- 8 – Constructed Channels
- 9 – Stream Bank Stabilization
- 10 – Stormwater Controls
- 11 – Erosion and Sediment Control

Green Infrastructure BMPs

Impervious Area Disconnection
Bio-retention / Rain Gardens
Permeable Pavement
Bio-infiltration Swales
Infiltration Basin
Tree Trenches
Rainwater Harvesting
Vegetated Roofs
Riparian Buffer Restoration

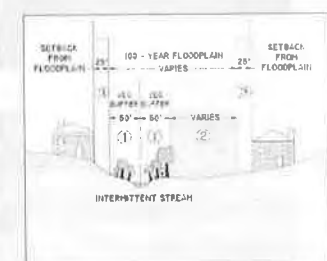
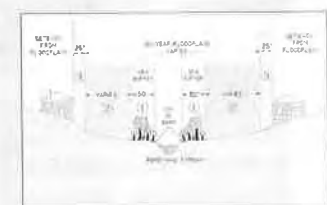
LOCATION:
Lexington, KY

OWNER:
Lexington-Fayette Urban
County Government, KY

DURATION:
2012 - 2019

PROJECT STAFF:
Richard Walker, PE, CFM
Program Manager

Barry Tinning
Policy Analyst



RELEVANCE TO LFUCG:

Stormwater design
standards and procedures
for new development/
redevelopment

Water Quantity and Water Quality Design Standards

The table below summarizes the water quantity and water quality design standards.

STANDARD	NEW DEVELOPMENT	REDEVELOPMENT
Water Quantity	Peak flow shall be reduced to pre-development levels for the 10-year, 100-year, 1995, and 2006 storms.	Peak flow shall be reduced to baseline (before demolition) levels for the 10-year, 100-year, 1995, and 2006 storms. No detention is required if the impervious area is not increased.
Water Quality	Water Quality Volume – All runoff from impervious areas shall pass through a stormwater control sized for the 90th percentile storm of 1.2 inches. Runoff Reduction – Green infrastructure controls shall be designed to retain on-site the runoff volume equal to 0.8 inches multiplied by the impervious area.	The baseline impervious area shall be reduced by 20%, or stormwater controls shall be provided for 20% of the baseline impervious area, or a combination thereof.

Stakeholder Involvement

Tetra Tech conducted an extensive internal and external stakeholder process to gain consensus on the major issues. The internal group consisted of city staff from various departments, including planning, engineering, law, and water quality. This group met for about a year to review changes to the manual proposed by Tetra Tech. The external group consisted of representatives from the home builders association, engineers, businesses, public schools, environmental groups, and the University of Kentucky.



Green Infrastructure Design Spreadsheet

WQV Calculations for Commercial and Industrial Projects, and Residential Projects with Lots Less than 6000 sf - DRAFT

Project Name:

1. Proposed Land Use		Area (sf)	Area (ac) % of Total
Impervious		10,000	10.0%
Roofs		10,000	10.0%
Streets, Sidewalks, Pavements		10,000	10.0%
Total		30,000	30.0%
2. Water Quality Design Requirements			
Water Quality Volume (WQV) (sf)		2000 (based on 1.2 inches of runoff from the impervious area)	
Runoff Reduction Volume (RRV) (sf)		2000 (based on 1.2 inches of runoff from the impervious area)	
3. Proposed WQV			
Impervious Area (sf)		10,000	10.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		8,000	8.0%
4. Green Infrastructure RRV			
Impervious Area (sf)		10,000	10.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		8,000	8.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		6,000	6.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		4,000	4.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		2,000	2.0%
Proposed Stormwater Controls (sf)		2,000	2.0%
Net Impervious Area (sf)		0	0.0%

Standardized approach to confirm compliance with the Stormwater Manual.

DUBLIN STORMWATER DESIGN MANUAL



The City of Dublin hired Tetra Tech to revise their Stormwater Design Manual to address the new Bridge Street Corridor form-based development code. The manual provided guidance and policies on effective and preferred stormwater management approaches within the Bridge Street Corridor. This includes managing stormwater runoff from site development, streets and streetscapes (including planned new streets), and open spaces.

The following highlights exemplify this project:

The new Bridge Street Corridor form-based code was reviewed for its freedom in facilitating stormwater Best Management Practices (BMPs).

Stormwater BMP guidance summaries were developed consisting of a concise table of design requirements and calculations for each stormwater BMP.

Accompanying each stormwater BMP guidance table is an isometric diagram of the BMP. Please refer to the image above. The diagram correlates major design elements with the elements from the guidance table. The primary

advantage of using an isometric rather than a two-dimensional drawing is that it can show BMP setback distances from buildings, pavement, and property lines.

A chapter of the manual is dedicated to correlating the form-based code with applicable stormwater BMPs. For example, the form-based code dictates specific requirements for a building type, such as an apartment building, including setbacks, required building zones, roof pitch, and location of parking. The manual interprets this code and indicates which BMPs are appropriate for an apartment building and also the suitable BMP placement. In addition to building type, stormwater BMPs are correlated with street types, neighborhood standards, open space types, and site development standards.

A section of the manual addresses managing stormwater cooperatively with other site developments. This section covers cooperative design criteria, shared stormwater system agreements, and long-term operation and maintenance considerations.

LOCATION:

Dublin, OH

OWNER:

City of Dublin

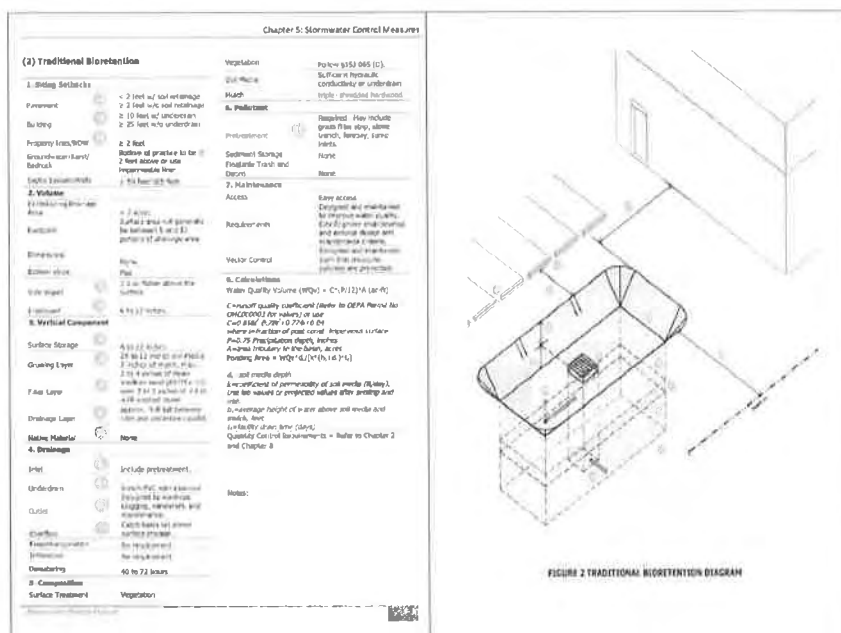
DURATION:

April - August 2012

PROJECT STAFF:

Dan Christian, PE, D.WRE

Project Manager



RELEVANCE TO LFUGG:

Stormwater design standards for form-based code/ redevelopment communities

TOLEDO LID MANUAL 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, agricultural 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 Low Impact Development (LID) goals and objectives, site assessment considerations, and a toolbox of stormwater Best Management Practices (BMP) applicable to the

Lower Maumee and Ottawa River watersheds. BMP information includes design guidelines, specifications, details, and maintenance concerns as well as assistance in selecting the BMPs based on the unique 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 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.

LOCATION:
Toledo, OH

OWNER:
American Rivers

DURATION:
2009 - 2010

PROJECT STAFF:
Dan Christian, PE, D.WRE
Senior Water Resource Engineer

MANUAL ACCESSIBLE AT:
Americanrivers.org/library

Structural Stormwater BMPs

7.1 Bioretention

Description

Shallow stormwater basins with landscaped areas that utilize vegetated soil and vegetation to capture and treat runoff. Also referred to as rain gardens.

Benefits and Limitations

- Use biological, chemical, and physical processes to remove a variety of pollutants
- Able to attenuate flow and reduce volume
- Good retrofit capability
- Applicable to small drainage areas
- Good for highly impervious areas
- Relatively low maintenance requirements
- Can be a landscape feature
- Not recommended for areas with steep slopes

Suitable Applications

There are numerous design applications for bioretention. These include residential lots, commercial/industrial sites, airport taxi/drop-off/parking lots, and along highways and roads.

Bioretention areas are designed primarily for the removal of stormwater pollutants from runoff. Bioretention can provide limited runoff quantity control, particularly for smaller storm events. These facilities may sometimes be used to partially or completely meet channel protection requirements on smaller sites. However, bioretention facilities typically need to be used in conjunction with other structural controls to provide flood protection. Bioretention areas need to be designed to safely pass higher flows.

Required Design Data

- Stormwater quality and quantity design criteria
- Site characteristics
- Drainage area
- Native soil infiltration rate



Example Applications



Early Stormwater Bioretention



Single Family Residential Rain Garden



Parking Lot Bioretention



Urban Bioretention Applications

RELEVANCE TO LFUGG:
Stormwater design and information standards

KENTUCKY EROSION PREVENTION AND SEDIMENT CONTROL FIELD GUIDE AND TECHNICAL MANUAL



Tetra Tech has provided a wide range of support for the Kentucky Division of Water (KDOW) watershed management program through nearly \$2 million in contracts awarded since 1997. Support focused on improving the effectiveness of Kentucky's watershed management framework and included production of technical and field guides on construction site stormwater management, including key support for the development of the new Kentucky Erosion Protection and Sediment Control Professional Qualification Program.

Working with a technical team from state water, conservation, natural resources, and university programs, Tetra Tech developed and delivered a number of products to improve construction site erosion, sediment, and stormwater control in the Commonwealth. Deliverables included a 100-page full color and laminated Field Guide for construction workers, a 250-page Technical Specifications Manual for design professionals and

stormwater plan preparers, a series of 46 technical and field practice workshops across the state, and a web site for accessing the Field Guide, training workshop information, and related materials.

Tetra Tech developed more than two dozen original color graphics depicting various ESC BMPs, provided more than 250 original photographs, developed six separate slide presentations, and produced both manuals and all other materials related to the overall training program. Materials developed under this project replace all existing statewide ESC manuals and guides, and have been approved for use by state agencies and other entities. Approximately 3,000 individuals were trained through March 2008. These workshops, manuals, and training materials represented the first statewide effort to upgrade construction site runoff practices in Kentucky, and resulted in development of the KEPSC "qualified construction contractor" certification program.

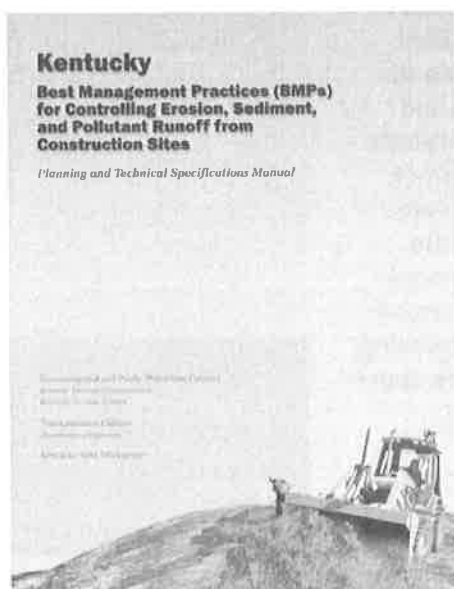


LOCATION:
State of Kentucky

OWNER:
Kentucky Division of Water,
Division of Conservation, and
Transportation Cabinet

DURATION:
2003 – 2007

PROJECT STAFF:
Richard Walker, PE, CFM
Senior Engineer
Barry Tanning
*Subject Matter Expert, Technical
Support*



RELEVANCE TO LFUCG:
Statewide training
program and technical
manuals

KENTUCKY DIVISION OF CONSERVATION HINKSTON CREEK WATERSHED PLAN



Tetra Tech developed the Quality Assurance Project Plan, collected existing and new water quality data, implemented an outreach/education program, and worked with a stakeholder group to develop a watershed-based plan addressing EPA's nine key elements for Hinkston Creek in east-central Kentucky. Hinkston Creek 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 and organic enrichment. The plan, which was approved by the Kentucky Division of Water in June 2011, included detailed cost and load reduction information for a suite of mostly agricultural best management practices, was based on conventional modeling approaches and innovative analytical tools.

For example, on-site wastewater treatment system potential risk to water quality was assessed via mapping analyses that considered system densities (i.e., number per square mile), system age, and proximity to surface waters. Prioritization was based on level of household density, closeness to streams, and closeness to karst topography (to account for impacts to groundwater). A riparian buffer assessment and deficiency analysis used aerial photography to determine canopy cover presence/absence and buffer zone widths. Finally, a desktop profile of high-risk stream channel reaches was conducted via mapping work that analyzed riparian

vegetation (i.e., canopy cover), cattle access points, and property ownership records. The riparian deficiency data was overlaid with imagery from USDA's National Agriculture Imagery Program and was used to assess the intensity of impact on riparian areas within the Blacks and Boone Creek subwatersheds. Reaches within each subwatershed were visually scanned against the NAIP imagery to assess the land cover context for riparian buffers. Impacted riparian areas were divided into four levels of impact based on stress conditions observable from the aerial imagery, such as proximity of intense tilling and/or grazing to the stream edge, cattle access points, and lack of tree or shrub cover in the riparian buffer. Parcel boundaries were obtained from the county property valuation office to identify landowners who might be interested in stream protection BMPs.

For the outreach/education program, Tetra Tech used a multi-pronged approach, including weekly newspaper columns that mixed water quality issues with area historical events, a series of billboards featuring positive "thank a farmer" for adopting BMP messages, an informational web site with water quality monitoring and other information, signage installed at watershed boundaries and creek crossings, and presentations to area groups on the watershed and the project. The project also sponsored a cost share program for agricultural producers interested in implementing plan-based BMPs on land in the upper portion of the watershed.



LOCATION:
Hinkston Creek,
East-Central, KY

OWNER:
Kentucky Division of
Conservation

DURATION:
2008 - 2011

PROJECT STAFF:
Barry Tanning
Policy Analyst

RELEVANCE TO LFUGG:

Watershed planning in
Kentucky

USEPA CHESAPEAKE BAY TMDL WATERSHED IMPLEMENTATION PLAN



Tetra Tech has provided a wide range of technical and managerial support to EPA Region 3 and the Chesapeake Bay Program Office (CBPO) related to TMDL development efforts for the Chesapeake Bay. EPA has led development of TMDLs through a collaborative effort involving all 6 bay states (Virginia, Maryland, Pennsylvania, Delaware, West Virginia, and New York) and the District of Columbia. A major portion of Tetra Tech's support has focused on development of statewide and higher resolution local Watershed Implementation Plans (WIPs), with the objective of identifying measures and milestones to comply with TMDL allocations.

Tetra Tech has provided support to each state and the District of Columbia for state-wide WIPs, including configuration of the CBPO's model for state use, development of management scenarios to evaluate using the model, confirmation of point source representation in the CBPO model, drafting of WIP report sections, and stakeholder meeting support.

Tetra Tech has provided local WIP support to several MS4 and non-MS4 communities throughout the watershed. The primary objectives of Tetra Tech's support have been to review the communities' existing programs, identify measures and milestones to comply with TMDL allocations, prepare strategies, and develop tools to track future implementation. Tetra Tech has supported Prince William County, Virginia; Rivanna River Basin Commission, Virginia; Anne Arundel County, Maryland; Caroline County, Maryland; Conewago Creek Watershed Initiative, Pennsylvania; District of Columbia; Chemung County,

New York; and Eastern Panhandle Planning and Development Council, West Virginia. (Although not funded through the same EPA contract, Tetra Tech is currently leading development of a WIP for Prince George's County, Maryland.) Example tasks include:

- Participate in interagency meetings and educate groups on the TMDL and WIP process
- Collect data (e.g., BMPs, land use) for existing program and strategy evaluation
- Estimate jurisdictional sediment and nutrient pollutant loads using model output, land use, and municipal boundaries as well as some source-specific loads (e.g., septs)
- Compare Chesapeake Bay Watershed Model results to pollutant loads specified in existing local TMDLs
- Inventory, map and develop a database of planned and existing capital projects and BMPs
- Develop implementation recommendations, including identify and prioritize sites for urban stormwater and stream restoration BMPs
- Evaluate possibility of a nutrient criteria trading program
- Estimate load reductions based on implementation recommendations
- Develop approach for estimating implementation costs
- Identify data gaps that need to be addressed for future WIP development and implementation efforts
- Prepare a guidance document based on lessons learned to support other counties



LOCATION:
VA, MD, PA, DE, WV, NY, DC

OWNER:
U.S. EPA

DURATION:
2008 - Ongoing

PROJECT STAFF:
Barry Toning
Facilitation and Outreach
Jon Ludwig
Watershed Planning, Green Infrastructure Implementation
Mark Sievers
Watershed Planning, Technical Committee Facilitation
Adrianna Berk
Communication and Outreach

RELEVANCE TO LFUCG:

Large scale watershed planning and response to TMDL requirements

DURHAM THIRD FORK CREEK WATERSHED PLAN AND GENERAL PROGRAM SUPPORT



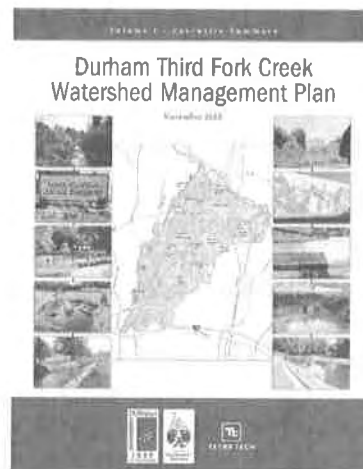
Tetra Tech prepared a Watershed Management Plan for Third Fork Creek for the City of Durham's Stormwater Services Division and developed a comprehensive implementation strategy for restoring watershed function and protecting the downstream public water supply in Jordan Reservoir. Tetra Tech also provided support for Stormwater Program enhancement.

Tasks involved data compilation and analysis, stakeholder interviews, field surveys to assess condition and identify management opportunities, and setting of goals and objectives for the City's broader watershed approach and specific to the Third Fork Creek watershed.

Tetra Tech developed a continuous hydrodynamic watershed model (SWMM) to help assess water quantity and quality management needs, predict future conditions, and evaluate the effectiveness of alternative management options. Model development included working with the City to refine existing GIS-based land use and land cover (LULC) data and to generate future LULC for model application. Existing stormwater BMPs were identified and incorporated with the SWMM model. Tetra Tech helped

the City prioritize stormwater retrofits and stream restoration opportunities using a variety of criteria including cost-effectiveness. Conceptual engineering designs were developed for several selected upland stormwater BMP and instream restoration sites. Tetra Tech also identified and prioritized critical lands for protection/preservation and helped to update the City's Riparian Management Manual, including specifics on invasive species for the Third Fork Creek watershed.

In addition to tasks specific to the Third Fork Creek Watershed, Tetra Tech provided a number of services that pertain to citywide programs: Local stormwater codes, ordinances, policies and procedures have been reviewed for refinement needs. Similarly, BMP maintenance standards, protocols and policies were reviewed for potential refinement. Throughout the project, Tetra Tech facilitated coordination with a team of City staff from programs needing to integrate efforts. Results from the watershed characterization, goals development, prioritization analyses, strategy development, pilot project preliminary designs, and implementation studies were compiled into a three-volume master watershed management plan set of documents for the City.



LOCATION:

Durham, NC

OWNER:

City of Durham

DURATION:

2009 - 2012

PROJECT STAFF:

Trevor Clements
Project Manager

RELEVANCE TO LFUGG:

Watershed and TMDL
planning expertise

LFUCG SECTION 319(H) WATERSHED-BASED PLAN, WOLF RUN WATERSHED



Tetra Tech team member, Third Rock embraces a watershed-scale approach to restoring our waters to swimmable, fishable resources. Third Rock engineers, aquatic ecologists, wetland scientists, and data analysts combine to provide a level of excellence unique and unparalleled in this region. Third Rock experienced staff has years of collective expertise in the areas of watershed planning, watershed-scale water quality monitoring, and design and implementation of best management practices. That expertise was invaluable in the development of the Wolf Run and Cane Run Watershed-Based Plans (WBP) for the Lexington-Fayette Urban County Government (LFUCG) and Kentucky Division of Water (KDOW), respectively.

The **Wolf Run Watershed** is Lexington's most highly urbanized watershed with about 40% of the surface covered with impervious material. The 13.5 miles of perennial streams and tributaries in the watershed drain an area of 10.18 square miles. The watershed has significant karst development including Preston's Cave, McConnell Springs, and Kenton Blue Hole among other features which complicates the hydrology by redirecting groundwater from the adjacent basins. Wolf Run Creek is listed as impaired on the 303(d) list for nonsupport of primary and secondary contact recreation and partial support of warm water aquatic habitat with cause including fecal coliform, nutrient / eutrophication biological indicators, and specific conductance from a number of suspected sources.

Third Rock was contracted in 2010 by LFUCG to develop the Wolf Run WBP with the goal of identifying

the sources of pollution and the remediation efforts necessary to return the stream to its designated uses. The Wolf Run Watershed Council was also formed in December 2010 to receive input from the community on citizen desired goals and objectives for the watershed, to provide local knowledge on specific issues within the watershed, and to provide review and feedback on the WBP progress. All available data was compiled and reviewed by Third Rock to evaluate the additional data necessary to complete the WBP and implement its collection. To that end, Third Rock worked with the Friends of Wolf Run to conduct supplemental biological and water quality monitoring, and geomorphic and habitat assessment, over a 12-month period.

Biological monitoring results indicated that the aquatic macroinvertebrate community ranged from "poor" to "very poor." Water quality monitoring results indicated nitrogen, phosphorus, dissolved oxygen, ammonia, specific conductance, suspended solids, and E. coli each exceed benchmarks for one or more events. A watershed-wide specific conductance survey (373 measurements in 8 days) indicated the highest concentrations were in the headwaters of Wolf Run, Vaughn's Branch, and the Big Elm Tributary. Geomorphic assessment indicated the streams are generally over-widened and entrenched with significant channel alteration, bank armoring and bedrock substrate on many reaches. And habitat assessed at 33 reaches resulted in only 2 of the 33 reaches achieving a "fair" narrative criteria and all others rating "poor."

Based on these results, the Wolf Run Watershed Council devised

LOCATION:
Lexington, KY

OWNER:
Lexington-Fayette Urban
County Government

DURATION:
2011 – 2019

PROJECT STAFF:
Molly Foree, JD
Project Manager

William "Mac" Hall, EIT
Project Engineer

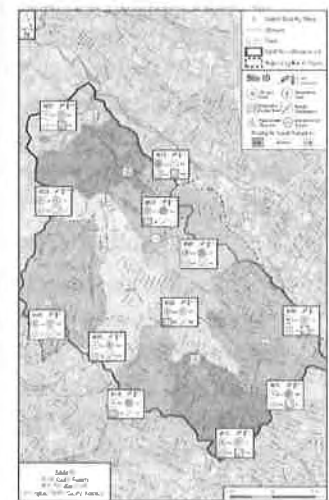
Casey Mattingly, PE
Water Resource Engineer

Cory Bloyd
Project Ecologist

Chelsey Olson
Project Ecologist / GIS Analyst

Rain Storm
Senior Ecologist

James Storm
Project Ecologist



RELEVANCE TO LFUCG:
Watershed planning in
Kentucky

SEMCOG-MDOT ROADWAY INFRASTRUCTURE— CLIMATE RESILIENCY AND FLOOD MITIGATION



Heavy precipitation events across the south Michigan area have caused flooding and inundation of the regional transportation infrastructure, especially depressed freeways, that has overwhelmed the capacity of the existing stormwater infrastructure. These types of flood events are projected to occur more frequently and potentially with more severity over time due to climate change. To address this risk, SEMCOG and MDOT are seeking to develop a better understanding of vulnerabilities and how to best address these challenges. This information will guide planning and investment decisions in the continued safe and efficient operation of a resilient transportation network.

Tetra Tech performed a **Climate Resiliency Analysis** by examining the Metro Region's current transportation flooding problems, investigating the changing climate, and explaining the implications of anticipated future weather conditions. The team conducted an updated risk assessment to identify and prioritize transportation assets subject to flooding and made recommendations for long-range transportation planning and stormwater design criteria.

Whereas the climate change resiliency analysis takes a large-scale look at the entire SEMCOG region, Tetra Tech developed a **Framework to Address Highway Flooding** by examining specific site scale problems to focus

on addressing flooding in areas of depressed freeways associated with pump station problems. We took an integrated holistic approach to consider runoff sources and present ideas that addressed the flooding in a sustainable and resilient way going well beyond bigger pumps and pipes. In addition to analyzing specific problems, we developed a framework to guide future hydrologic/hydraulic analysis.



LOCATION:
SEMCOG-MDOT Regions, MI

OWNER:
Southeast Michigan Council of Governments (SEMCOG), MI

Michigan Department of Transportation (MDOT), MI

DURATION:
2018 - 2019

PROJECT STAFF:
Dan Christian, PE, D.WRE
Project Manager
Carol Hufnagel, PE
QA/QC - Water Resources

RELEVANCE TO LFUCG:

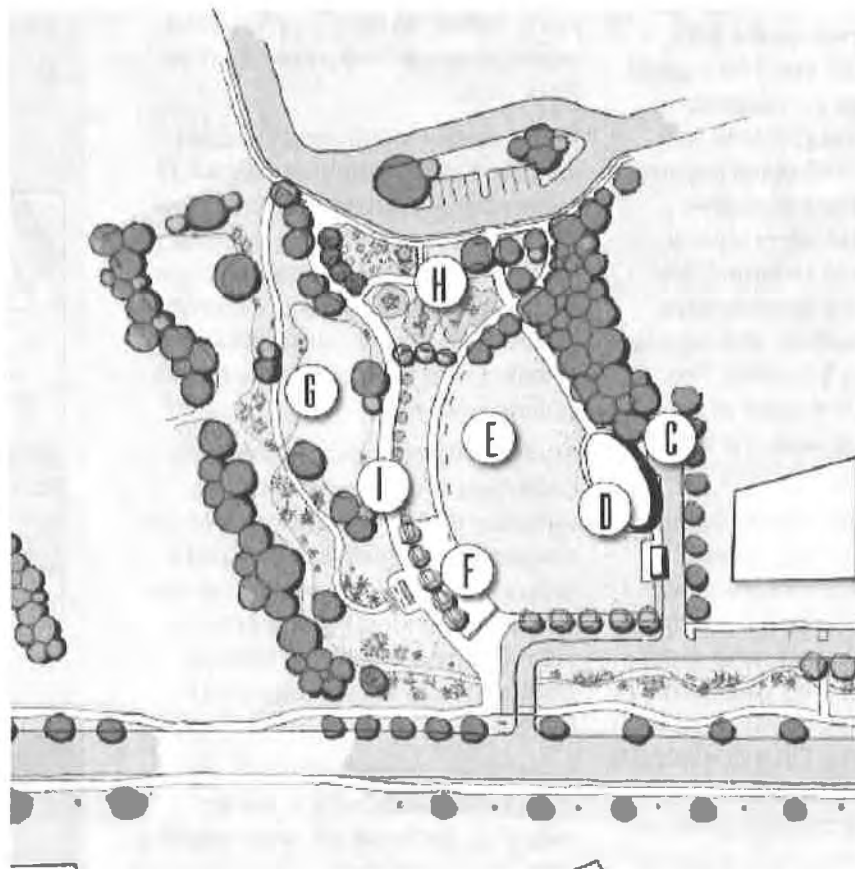
Impacts of changing rainfall patterns and approaches for managing extreme rainfall events

general goals and objectives for the watershed and recommended the types of Best Management Practices and locations for implementation.

Further, an Outreach Campaign Subcommittee was organized to develop an education and outreach plan for the watershed and a Water Quality BMP Technical Subcommittee was organized to review the Council recommendations and develop an implementation strategy with prioritized projects. **In January 2013, a comprehensive implementation plan was developed based on these efforts and presented for public comment. The plan identifies 138 BMP project opportunities in the watershed, 62 high priority, 32 medium priority, and 44 low priority projects.** Additional stream and habitat improvement opportunities include 3.5 miles of stream restoration, 5.6 miles of riparian buffer restoration, and approximately 850 feet of bank stabilization. Wetland creation or expansion is proposed for approximately 20 acres and enhancements are proposed at two springs.

Beginning in 2016, Third Rock worked collaboratively with Banks Engineering and LFUCG to evaluate

structural and street flooding within Lexington's Wolf Run Watershed and developed improvement projects to address flooding and improve water quality that are reasonable and cost-effective. Projects included in the Wolf Run WBP BMP Implementation Plan were prioritized. **One such project involved the construction of stormwater and green infrastructure in Lexington's WGPL neighborhood where stormwater is routed to a LFUCG-owned green space, locally called Pensacola Park, adjacent to Wolf Run.** Third Rock sited and designed two bioswales and a bioretention area within the park to receive and treat stormwater runoff, while keeping with existing master plan for the area. Because of its location, both in terms of its accessibility and visibility, the green infrastructure projects provide a unique opportunity to educate the public regarding the function of bioswales and bioretention areas and the treatment of stormwater runoff. Third Rock designed the green infrastructure features with a paved access trail and room to accommodate future recreational amenities to enhance the experience of users of Pensacola Park.



Pensacola Park / Southland Drive Master Plan Location of Green Infrastructure

KDOW SECTION 319(H) WATERSHED-BASED PLAN, CANE RUN WATERSHED



Tetra Tech team member, Third Rock was contracted by the Kentucky Division of Water (KDOW) in 2016 to develop the Cane Run WBP, supplementing the University of Kentucky's 2011 WBP with monitoring and analysis sufficient to evaluate previously undocumented urban sources. Cane Run Watershed is in north central Lexington, Fayette County, and southwestern Scott County, Kentucky. The headwaters of Cane Run originate in central Fayette County and flow north into Scott County. Once Cane Run crosses into Scott County it flows northwest to its confluence with North Elkhorn Creek just west of the City of Georgetown. Cane Run was first listed as impaired for aquatic life in the 1998 303(d) list of Kentucky impaired waters, with river mile 10.0 to 17.4 listed for organic enrichment biological indicators and pathogens (fecal coliform). In subsequent years, additional segments and causes were listed, including impairment to warm water aquatic habitat (WAH) due to sediment, and recreational uses due to pathogens, nutrients/eutrophication, and organic enrichment (sewage) by 2002. The entire main stem (17.4 miles) of Cane Run was listed for at least one type of impairment by 2002.

To evaluate the water quality within the Cane Run watershed, historic monitoring data was compiled and analyzed to characterize the condition of the aquatic life, habitat, and water quality in the watershed. Generators of historic surface water quality data for the watershed within Cane Run include LFUCG, the City of Georgetown, University of Kentucky Environmental Research and Training Laboratory (UK ERTL), KWRRI, University of Kentucky College of Agriculture's Biosystems and

Agricultural Engineering Department (UK BAE), KDOW, and Kentucky River Watershed Watch (KRWW). These studies were conducted at various locations throughout the watershed over multiple years and for different parameters.

Much of the historic data was collected in 2008-2009 or prior and was therefore dated and monitoring gaps in Scott County and the urban headwaters of Lexington needed to be fulfilled for the WBP to be comprehensive.

To address those needs, Third Rock developed and implemented two supplemental monitoring plans under Third Rock's approved quality assurance project plan (QAPP; Third Rock, 2016a). All WBP supplemental monitoring was performed by Third Rock staff.

Water quality monitoring included sampling at 11 additional sites for 12 events between June 2016 and May 2017 and microbial source tracking using quantitative polymerase chain reaction for DNA markers of human and ruminant fecal contributions at select sites to elucidate bacterial pollution sources.

Additionally, biological monitoring consisting of macroinvertebrate sampling and habitat assessment was conducted at eight locations, and a severe erosion survey of streams was conducted to identify high priority areas for implementation of bank stabilization or stream restoration BMPs.

In addition to extensive data compilation and analysis, public meetings, technical advisory meetings, small group meetings, urban outreach activities, and other efforts contributed

LOCATION:
Lexington, KY

OWNER:
Kentucky Division of Water

DURATION:
2016 – 2019

PROJECT STAFF:
Molly Foree, JD
Project Manager

William "Mac" Hall, EIT
Project Engineer

Casey Mattingly, PE
Water Resource Engineer

Cory Bloyd
Project Ecologist

Chelsey Olson
Project Ecologist / GIS Analyst

Rain Storm
Senior Ecologist

James Storm
Project Ecologist



RELEVANCE TO LFUCG:
Watershed planning in
Kentucky

to development of the WBP. Goals identified during the watershed planning process included the following:

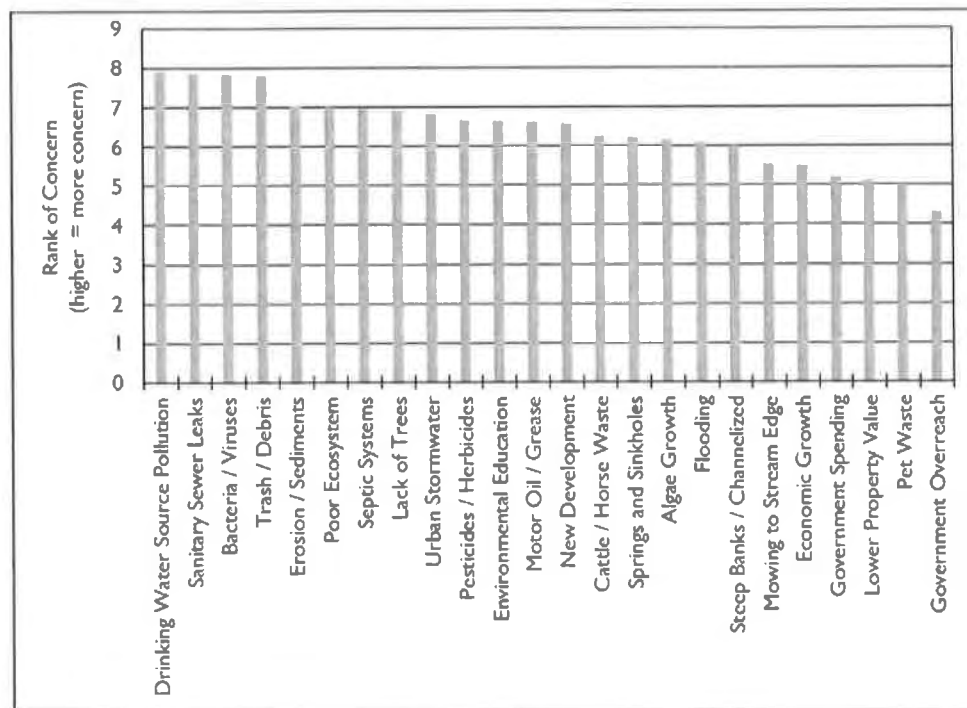
1. Decrease bacterial levels to allow for safe recreational use
2. Reduce nutrient concentrations (nitrogen and phosphorus) to healthy levels
3. Improve the stream and riparian habitat to support a healthy aquatic ecosystem, including stream restoration/stabilization to reduce bank erosion
4. Decrease velocity and volume of stormwater to Cane Run and tributaries in developed areas
5. Remove trash from waterways and riparian zones
6. Educate the community on the importance of water resources and how they can help improve water quality

The watershed goals and objectives were used as a framework to identify and prioritize BMP projects and opportunities necessary to restore the designated uses to the watershed's streams and achieve the plan goals and objectives. A BMP Implementation Plan was incorporated to guide watershed remediation efforts

and represent the type and scope of projects that will be required to meet watershed goals. Each BMP was prioritized as high, medium, or low.

High priority BMPs include areas or audiences which are considered necessary to achieve watershed goals, are believed to provide the greatest benefit to the watershed, and which have stakeholder cooperation and support, and may have secured funding as well. Medium priority BMPs typically target areas or audiences where BMPs are needed, but it is unknown if stakeholders are willing to pursue implementation. Low priority BMPs would be beneficial in improving conditions in the watershed but are in areas where pollutant loading reductions are not required or the implementation is less feasible /effective.

The WBP was finalized in June 2019 and approved by EPA later that year. BMPs are currently in various stages of implementation, with ongoing projects in both Fayette and Scott Counties administered by LFUCG and the Georgetown Municipal Water and Sewer Service (GMWSS).



Ranking of Water Quality Concerns in the Cane Run Watershed

LFUCG ENVIRONMENTAL ANALYSIS, DESIGN, AND PERMITTING— SANITARY SEWER CAPITAL PROJECTS



The Lexington-Fayette Urban County Government (LFUCG) Consent Decree (CD) requires LFUCG to eliminate recurring sanitary sewer overflows (SSOs) and unpermitted bypasses at wastewater treatment plants within 11 to 13 years of its effective date (2011). In response, LFUCG's Sanitary Sewer System and WWTP Remedial Measures Plan (RMP) was developed by Hazen and Sawyer. The RMP documents LFUCG's implementation approach and capital cost estimates organized by major sewersheds within the LFUCG service area. Proposed improvements are divided into distinct projects, and each project is prioritized based on frequency and severity of SSOs and potential health risks to the public while considering necessary "predecessor" projects.

Between 2011 and 2015, Third Rock acted as a subconsultant to Hazen to assess potential environmental impacts, including those to jurisdictional water resources, associated with early RMP projects. Initial task orders included Phase I and II Environmental Site Assessment and water resource assessment associated with 15 RMP projects in the Town Branch, Cane Run, East Hickman, West Hickman, and Wolf Run sewersheds.

Third Rock engineers were also tasked with the development of typical stream restoration details, technical specifications, and supporting guidance documents for future use by LFUCG design consultants to prevent degrading stream and ecological function during RMP infrastructure installation. Subsequently LFUCG requested supplemental site-specific stream crossing locations, infrastructure constraints (stream), and horizontal layout recommendations for RMP projects in three sewersheds.

Between 2016 and 2020, Third Rock worked closely with Tetra Tech and other design consultants under contract with LFUCG to deliver 11 additional RMP bid packages. Consultants included GRW Engineers, Inc., HDR Engineering, Inc., Strand Associates, Vision Engineering, and Kentucky Engineering Group. Tasks including environmental analysis and planning sufficient to inform preliminary design and secure USACE authorization for impacts to jurisdictional resources. The compilation of Third Rock's involvement in LFUCG's RMP program is illustrated below.

Work involved close coordination with LFUCG's consultant to allow



LOCATION:
Lexington, KY

OWNER:
Lexington-Fayette Urban
County Government

DURATION:
2011 – Ongoing

PROJECT STAFF:
Molly Foree, JD
Project Manager

Gerry Fister, PG
Senior Environmental Analyst

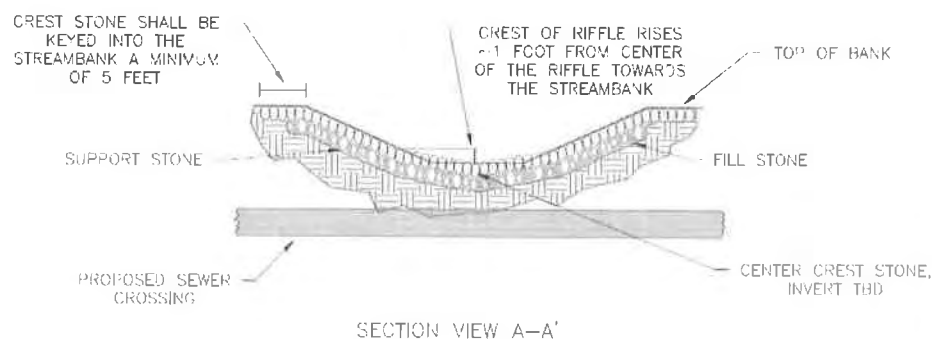
Rain Storm
Senior Ecologist

Casey Mattingly, PE
Water Resource Engineer

Cory Bloyd
Project Ecologist

Chelsey Olson
Project Ecologist / GIS Analyst

James Storm
Project Ecologist



RELEVANCE TO LFUCG:

Design standards to
minimize impacts to
streams

for the avoidance of impacts to jurisdictional water resources, threatened and endangered species habitat, and hazardous soils and/or groundwater whenever practical. With respect to potential impacts to water resources specifically, early coordination with regulatory agencies minimizes the time and expense involved in acquiring permits. Accurate characterization and quantification of impacts is the crucial first step. When impacts are identified during the initial stages of project design, water resources can be avoided and disturbance minimized which simplifies permitting and minimizes mitigation requirements.

For example, Third Rock was retained by HDR to support the design and construction of the West Hickman 7 Wet Weather Storage Facilities Improvements Project (WH7WWS Facilities), RMP Project No. WH-1. LFUCG's Group 1 RMP calls for the construction of WH7WWS improvements including a wet weather storage (WWS) tank and pump station which would provide five million gallons (MG) of

additional system storage for excess wet weather flow. Third Rock ecologists and geologists assessed a proposed disturbance area of 6.6 acres in size, 3.4 acres for the pump station and 3.2 acres for the storage tank.

One intermittent and one perennial stream were identified within the survey area including approximately 697 feet of West Hickman Creek is located within the pump station property. This reach of West Hickman Creek flows into the property from the northeast, through a sharp bend westward, and then into Lexington Reservoir No. 3 off property. Both the unnamed tributary and West Hickman Creek flow directly into other tributaries that ultimately reach navigable waters; therefore, they met the definition of "Waters of the United States," and as such were subject to USACE jurisdiction. HDR was informed that unavoidable impacts to West Hickman Creek would require a 404 Nationwide Permit (#3 - Maintenance or #12 - Utility Lines) issued by the USACE, and 401 Permit to Construct Along a Stream issued by the Kentucky Division of Water (KDOW).

RMP IMPLEMENTATION PLAN - SSO ABATEMENT PROJECTS

SS	No.	Project Name	Third Rock	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EH	1	East Hickman FM	★													
	2	East Hickman PS	★													
	3	East Hickman WWS Tank	★													
	11	Eliminate East Lake PS	★													
	12	Century Hills Trunk Upsize	★													
WH	1	WH7 WWS Tank	★													
	3	West Hickman Main Trunk B	★													
	4	West Hickman Main Trunk C	★													
	6	West Hickman Main Trunk D	★													
	16	Woodhill Trunk	★													
	20	WH WWTP WWS Tank	★													
	21	WH WWTP Reliability Upgrades	★													
WR	8	Wolf Run WWS Tank	★													
	10	Bob O'Link Trunk	★													
	11	Wolf Run Pump Station	★													
CR	1	Lower Cane Run WWS Tank	★													
	2	Expansion Area 3 PS	★													
	3	Expansion Area 3 FM	★													
	4	Expansion Area 3 Trunk	★													
	8	Sharon Village PS and FM	★													
TB	10	Upper Cane Run WWS Tank	★													
	1	Town Branch WWTP WWS Tank	★													
NE	11	Town Branch WWTP Reliability	★													
	7	Expansion Area 2A Projects	★													
Design																
Construction																

SECTION 5

Familiarity with the Details of the Project



TETRA TECH

Section 5: Familiarity with the Details of the Project

AN AWARD-WINNING PROGRAM BUILT UPON A SOLID FOUNDATION

The Tetra Tech team is thoroughly familiar with the project because we have been involved with the MS4 Program from the beginning. We assisted the city with applying for the first MS4 Permit in 1992, and we have provided annual water quality monitoring services for the last 25 years. Tetra Tech worked with LFUCG management and legal counsel to develop the original Stormwater Quality Management Program (SWQMP) during the negotiations with EPA from 2006-2008.

We have been LFUCG's MS4 Program Manager since 2008 and have helped the city build a solid foundation for the MS4 Program. LFUCG has maintained compliance with the Consent Decree/

MS4 Permit and garnered national recognition in 2018 when the city's Phase 1 MS4 Program won two awards—Overall Highest Scores and Gold Level Program Management.

The 167 measurable goals in the original SWQMP laid the foundation for the MS4 program as it exists today. Many of the goals in the SWQMP became a part of the Consent Decree and MS4 Permit requirements. Thus, we have in-depth knowledge of the three regulatory documents that drive the MS4 program—the Consent Decree, the MS4 Permit, and the SWQMP—and how they relate to today's program.

National Municipal Stormwater and Green Infrastructure Awards Program

The Water Environment Federation honors
Lexington-Fayette Urban County Government, Kentucky for its outstanding
stormwater management program and commitment to installing green infrastructure.

*Lexington-Fayette Urban County Government,
Division of Water Quality
has been awarded special winner of:*

Overall Highest Score, Phase I

In addition, you have been also categorized as the following:

Innovation: Silver Level | Program Management: Gold Level

Ego Weill
Executive Director
Water Environment Federation

Water Environment
Federation
It's water quality people.

National Municipal Stormwater and Green Infrastructure Awards Program

The Water Environment Federation honors the
Lexington-Fayette Urban County Government, Kentucky for its
outstanding stormwater management program and commitment to installing green infrastructure.

*Lexington-Fayette Urban County Government,
Division of Water Quality
has been awarded special winner of:*

Program Management, Phase I

In addition, you have been also categorized as the following:

Innovation: Silver Level | Program Management: Gold Level

Ego Weill
Executive Director
Water Environment Federation

Water Environment
Federation
It's water quality people.

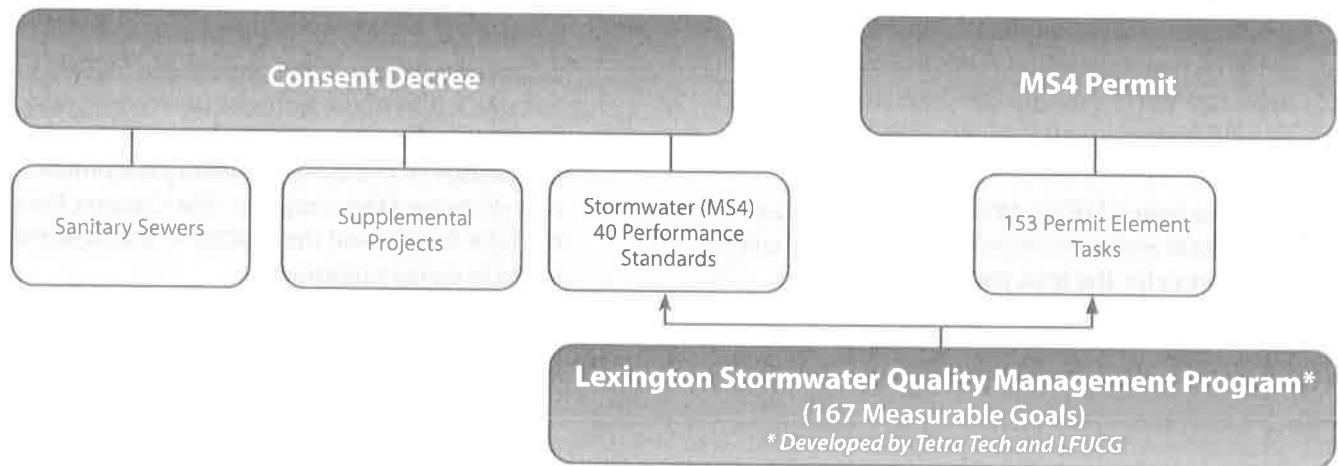
The LFUCG's Phase I MS4 program was recognized in 2018 by the Water Environment Federation.

The USEPA issued the Consent Decree in 2008, and it was the first Consent Decree in the nation that addressed violations of the Clean Water Act in the sanitary sewer and storm sewer system. The Consent Decree is a lengthy document that consists of several appendices, and it is difficult to comprehend how the elements fit together. Consequently, Tetra Tech developed Figure 5-1 below to develop a clear understanding of the components of the Consent

Decree and how it relates to the MS4 permit and Stormwater Quality Management Program (SWQMP).

There are now approximately 175 specific requirements with specific deadlines that LFUCG must meet each 5-year permit cycle. Each requirement has been met on-time under the oversight of the Tetra Tech team. In addition, LFUCG has passed all the inspections conducted by the Kentucky Division of Water and complied with every permit condition.

FIGURE 5-1: CONSENT DECREE AND THE MS4 PERMIT

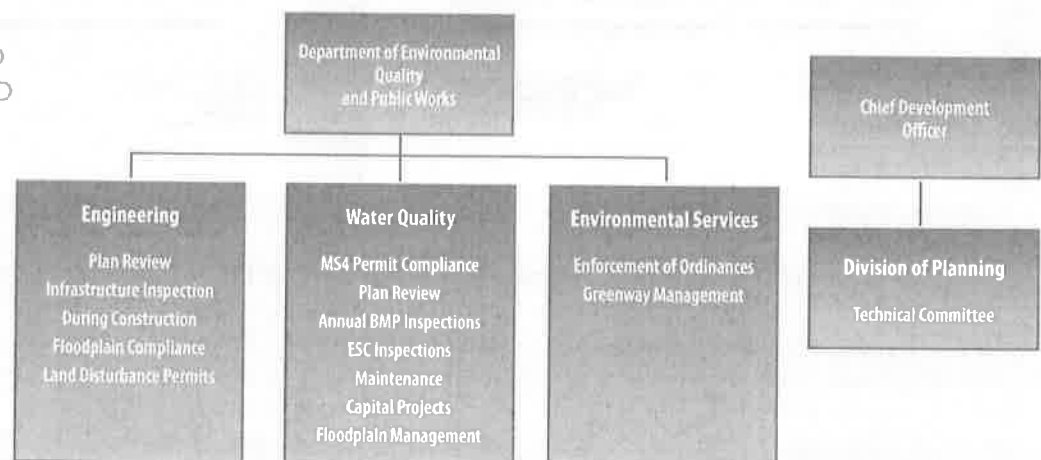


TETRA TECH WORKING AS AN EXTENSION OF LFUCG STAFF

The MS4 Program is administered within the LFUCG Division of Water Quality under the MS4/Water Quality Section Manager. However, other divisions have an important role, as shown below. Tetra Tech has long-standing relationships with the staff in each division based on mutual respect and trust. Tetra

Tech seamlessly integrates with all LFUCG divisions to produce required submittals. We pride ourselves on the ability to efficiently and accurately prepare these submittals while minimizing the burden on LFUCG staff within several divisions. The program manager must work as an extension of LFUCG staff and every hour of Tetra Tech time is spent toward achieving that goal.

FIGURE 5-2: KEY LFUCG DIVISIONS AND STORMWATER RELATED RESPONSIBILITIES



APPROACH TO SCOPE OF SERVICES

The subsections below list the numbered items in the Scope of Services contained in the RFP, provide status information derived from our past work with the city, and document our approach for future service, based on our extensive experience with LFUCG, state/federal regulatory agencies, and our work with other MS4 programs across the nation.

1. Civil engineering, program management, and scheduling to meet the obligations and deadlines of the Consent Decree, SWQMP, and MS4 Permit, including critical path and schedule for implementation

Current Status

- LFUCG passed two KY Division of Water program audits, won two national MS4 awards, and met all engineering, program management, Consent Decree, SWQMP, and MS4 Permit requirements with Tetra Tech support during the previous contract service period
- Lexington's MS4 Program is now fully developed and appropriately staffed with highly trained and committed personnel, working well together and communicating effectively

Future Approach

- Provide technical support for a full reassessment and refinement of SWQMP performance standards, measurable goals, and schedules related to Consent Decree and MS4 requirements
- May recommend to scale-back some activities and enhance others, based on provisions of the pending KDOW MS4 Permit
- More intensive consideration of construction site stormwater controls and post-construction stormwater management may be needed, depending on LFUCG priorities and the new permit
- Efficient and effective compliance measures regarding approaches for addressing impaired waters and TMDLs will be refined via further discussions with LFUCG senior staff

2. Assistance with updating the SWQMP once the next permit cycle begins to better reflect the goals and objectives of LFUCG's MS4 program

Current Status

- LFUCG's current SWQMP provides an all-encompassing framework for complying with and tracking all judicial, regulatory, and reporting requirements
- Tetra Tech provided support for initial SWQMP development and revision, including development and delivery of activities that address performance standards, measurable goals, and schedules

Future Approach

- Identify new and/or revised measurable goals in the new MS4 Permit and engage staff to determine workable approaches for addressing them in an efficient, effective manner
- Identify and eliminate outdated, redundant, and unneeded activities in the SWQMP after an analysis of their real/potential utility to the MS4 Program

3. Critical review and modification, if necessary, of LFUCG ordinances, guidance documents, policies, and procedures related to LFUCG's MS4 program

Current Status

- LFUCG ordinances, guidance documents, policies, and procedures were all updated with Tetra Tech support during the past permit cycle and have passed muster during two KDOW audits

Future Approach

- Through a conscious, orderly process of continuous improvement, support LFUCG in adjusting guidance, policies, and procedures when necessary, and orienting staff to changes

4. Oversight and implementation of water quality monitoring and assessments required by the MS4 Permit consistent with the Consent Decree, including site selection, field services, laboratory analyses, data evaluations, etc.

Current Status

- The Tetra Tech team has conducted extensive water quality monitoring and produced a variety of condition assessments in full compliance with the MS4 Permit

Future Approach

- Focus monitoring activities and environmental condition assessments on identified goals, objectives, and research questions—along with permit compliance requirements
- Assist LFUCG in transitioning to the next phase in monitoring and assessment work, based on clearly identified program needs and MS4 Permit requirements
- May move toward a rotating basin system for monitoring, folding assessments into externally supported watershed planning activities, and tightening the focus

5. Preparation/completion of required stormwater compliance input/submittals for quarterly, annual, or any other reports

Current Status

- Since the inception of Lexington's modern MS4 program, Tetra Tech has supported a wide range of reporting to the U.S. Department of Justice, USEPA, and the Kentucky Division of Water
- Reports include data and analyses, charts and graphs, informational graphics, and compliance activity reporting via documents, slide presentations, spreadsheets, and graphics

Future Approach

- Continue the high-quality analytical and other support for LFUCG's MS4 Program
- Train/orient city administrative staff to assume these duties if so desired

6. Preparation for and attendance at inspections of the MS4 program by KDOW and/or EPA

Current Status

- As noted, LFUCG passed two KDOW program audits, won two national MS4 awards, and met all Consent Decree and MS4 Permit requirements with Tetra Tech support during the past five years

Future Approach

- Assist LFUCG in preparing for future such audits by KDOW and/or EPA
- Use the EPA MS4 Program Audit Guide—produced with Tetra Tech support—to gauge program compliance with the terms of the permit
- Incorporate the two main foci of audit activity—review of policies, procedures, ordinances, etc., and staff familiarity and use of those programmatic assets—into staff meetings and training events

7. Assistance with the KPDES permit reapplication and negotiation, as well as general coordination which may be necessary with KDOW

Current Status

- Tetra Tech provided such support during the last MS4 Permit renewal process and assisted LFUCG in negotiating common sense and relevant permit terms and conditions

Future Approach

- Apply our experience with both the regulators and the regulated community and insight regarding likely provisions of the new permit and upcoming focus areas
- Support LFUCG in finding common ground with KDOW on permit requirements and mandatory actions—such as simplifying monitoring and assessment work, and addressing TMDLs and impaired waters on an ongoing, incremental basis

8. Assistance with preparing the request for termination from the Compliance Measures Relating to Storm Sewer System section of the Consent Decree, if and when deemed appropriate

Current Status

- The Tetra Tech team has supported implementation of the Consent Decree for more than a decade, assisting the city with full adherence to all performance standards and compliance schedules

Future Approach

- Assist LFUCG in making the case that the storm sewer system compliance measures have been addressed in full, including development and implementation of the SWQMP and its measurable goals and performance standards; the required legal provisions, enacted by ordinance; and the funding, personnel, training, and other stipulations

9. Hands-on technical assistance for implementing obligations of LFUCG's KPDES MS4 Permit and the associated SWQMP per the Consent Decree

Current Status

- The Tetra Tech team provides a wide range of service for implementing stormwater program requirements, including engineering, technical, scientific, training, and consulting services

Future Approach

- Continue to provide specialized services as needed while helping to build staff capabilities and capacity to assume as much of the professional workload as senior city staff may desire

10. Establishment and maintenance of a shared project documentation database, if requested

Current Status

- The Tetra Tech team established and currently maintains a shared project documentation databased used by LFUCG and Tetra Tech staff for files related to MS4 Permit and CD compliance

Future Approach

- Continue to maintain and improve the shared database by keeping it current and ensuring organization of the files support easy location, input, and export as needed

11. Coordination with other staff and firms engaged in other elements or programs of the CD

Current Status

- The Tetra Tech team has provided high-quality direct support for technical, scientific, engineering, regulatory compliance, and training needs related to the MS4 Permit and Consent Decree
- Monthly meetings of the various LFUCG staff involved in stormwater program implementation and coordination have been a cornerstone of the multi-division CD and MS4 Permit approach
- Tetra Tech staff are able to respond quickly and efficiently to stormwater program support needs from city personnel and other engineering firms, drawing on local and nationwide resources

Future Approach

- Support conventional and innovative approaches for improving program performance and efficiencies, e.g., through approaches such as the greenways planning, operation, and maintenance procedures, recently developed in response to issues raised by Divisions of Water Quality, Engineering, and Environmental Services
- Assist LFUCG in possibly expanding the lateral line replacement program, to address TMDL implementation and Infiltration/Inflow and exfiltration issues, in cooperation with city staff and external parties
- Provide support for development of a fee-in-lieu-of on-site stormwater controls for sites with little ability to support such controls, if this approach is embraced by LFUCG and stakeholders

12. Attendance at pre-bid and pre-construction meetings for RMP and other capital projects, to provide an overview of procedures for Permitting, Inspecting, and Enforcement of construction sites regarding ESC, SWPPPs, LDPs, and KYR10. Tetra Tech has also started attending the RMP monthly progress meetings to review erosion and sediment control issues

Current Status

- Tetra Tech staff has attended pre-bid and pre-construction meetings for RMP and other capital projects to highlight the need for city projects to serve as models for the construction industry
- The size and scope of some capital projects (e.g., sewer trunk line upgrades) and the presence of non-local contractors requires constant reinforcement regarding permit compliance

Future Approach

- Help the city maintain its high standards regarding regulatory compliance, including provision of specialized technical training, on-call inspection and consultation services, and targeted assistance where needed to ensure that rules are followed

13. Other, as needed, civil, sanitary, electrical, mechanical, water quality, and geotechnical engineering services necessary for compliance-driven activities

Current Status

- LFUCG has drawn on the multidimensional capabilities of the Tetra Tech team to monitor water quality impacts of the lateral replacement program, assess BMP performance, and conduct specialized engineering and other studies and services via an on-call, rapid response approach.
- The Tetra Tech team has afforded the city with "real world" common-sense approaches for addressing regulatory requirements, based on our experience with federal/state permits and other MS4s

Future Approach

- Respond to specialized on-call needs while helping to build internal staff technical competence, professionalism, and commitment to quality service as the focus of Lexington's program continues to shift from program and capacity development to long-term compliance

Table 5-1 on the following page presents the types of services requested in the RFP and our experience providing these services for the LFUCG MS4 Program over the past 12 years.

TABLE 5-1: TYPE OF SERVICES REQUESTED IN THE RFP

Services Performed by the Tetra Tech team on the LFUCG MS4 Program (2008-2020)	Project Management Technical Manuals Regulatory Reporting Ordinances Training/Workshops Water Quality Monitoring Project Database Operating Procedures Stormwater Engineering								
General Program Management									
Monthly Staff Meetings	X	X			X		X	X	
Monthly DOE, DWQ, DES Coordination Meetings	X	X			X		X	X	
Oversee CD/MS4 Permit deliverables/deadlines	X	X	X		X		X	X	
Public Education/Involvement									
Watershed Health Assessments		X							
Success Stories		X							
IDDE									
Enforcement Response Plan	X	X	X	X	X		X	X	
Review/evaluate Ordinance	X	X	X	X	X		X	X	
Major Outfall Inventory	X	X	X		X		X	X	
Visual Stream Assessments	X	X	X		X	X	X	X	X
Dry Weather Screening Program	X	X	X		X	X	X	X	X
Construction Sites									
Enforcement Response Plan	X	X	X	X	X		X	X	
Review/update ordinance	X	X	X	X	X		X	X	
Permitting, Inspection, Enforcement Procedures	X	X	X	X	X		X	X	X
ESC Staff Training (DOE, DWQ, DES)	X	X	X	X	X		X	X	
ESC Standard Specifications	X	X						X	X
Prebid and pre-construction meetings	X	X						X	
On-Call ESC Inspections	X	X	X	X				X	
ESC Plan Review/Analysis	X	X	X	X	X			X	X
Stormwater Manual Update	X	X	X	X	X			X	X
Post-Construction Stormwater Management									
Enforcement Response Plan	X	X	X	X	X			X	
Permitting, Inspection, Enforcement Procedures	X	X	X	X	X			X	X
Stormwater Manual Update	X	X	X	X	X			X	X
Procedures Manual Update	X	X	X	X	X			X	
Development Plan Review	X	X		X	X			X	X
Municipal Operations									
DWQ Capital Standard Specifications	X	X						X	X
Inspection of WWTPs, Fleet Services, MRF, etc	X	X	X	X	X			X	
Water Quality Monitoring	X	X	X	X		X		X	X
Industrial/High-Risk Commercial									
Enforcement Response Plan	X	X	X	X				X	
Staff and facility staff training	X	X	X	X	X			X	
Water Quality Monitoring									
Chemical, Biological, and Habitat Monitoring	X	X	X		X	X	X	X	X
Watershed Focused Monitoring	X	X	X		X	X	X	X	X
TMDLs and Impaired Streams									
Bacteria source analysis/control	X	X	X		X	X	X	X	X
EPA/KYEEC Consent Decree and MS4 Reports									
EPA/KYEEC Consent Decree and MS4 Reports	X	X	X				X	X	

FUNDAMENTALS OF SUCCESS—COMPLIANCE FIRST

Serving as the MS4 Program Manager for over 12 years we have obtained a keen understanding of what it takes to do the job effectively and efficiently.

Our team used the guiding principle of *Begin with the End in Mind* as our approach to the project. This was essential to the development of the Stormwater Quality Management Program because the LFUCG needed a clear roadmap to success.

As such, Tetra Tech held several meetings with LFUCG staff to understand the impact this roadmap would have on staffing levels, funding, and timelines. Other key lessons learned over the last 12 years include the following:

1. Communication, cooperation, and coordination are essential to success

Within LFUCG there are approximately 15 people working full-time on the MS4 program, and another 100 people who have part-time responsibilities. We have found that a monthly coordination meeting with staff from Engineering, Water Quality, and Environmental Services is productive in resolving issues related to erosion/sediment control and stormwater management in new development.

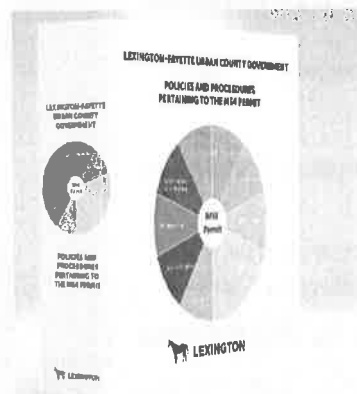
2. Develop systems that can be easily implemented by new staff

We recognize that staff turnover within LFUCG will occur, as with any organization, and that institutional knowledge can be lost in the transition. To address this, we have developed a policies and procedures notebook that clearly explains each program, the tasks that must be completed, and the responsible parties. The notebook will help new LFUCG employees get onboarded into their role in the program.

3. Focus on compliance with the Consent Decree and MS4 Permit requirements

The MS4 Program is a diverse program with many moving parts. It is the Program Management Consultant's job to keep the focus on the core tasks to help keep LFUCG in compliance with the Consent Decree and MS4 Permit.

It is easy to get distracted by the desire to do things that have merit but are not essential to the task at hand. We understand LFUCG's expectations of **Compliance First**.



STANDARD OPERATING PROCEDURES

Tetra Tech has completed over 50 task orders since 2008 on the MS4 Program. The deliverables have been of high quality, on time, and within budget. These tasks have involved the scope items identified in the RFP and shown in Table 2-1 on page 6. In addition, we have developed numerous standard operating procedures and guidelines that form the foundation of the MS4 program. The procedures and guidelines, along with the Stormwater Manual, will stand the test of time and provide employees with the go-to source document when questions arise about the proper procedures to use. The major standard operating procedures are listed below.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

- Enforcement Response Plan
- IDDE Detection and Elimination Protocol
- Water Quality Requirements for Dumpsters and Compactors
- Water Quality Requirements for New Gas Stations, Car Washes, and Vehicle Repair Shops
- Major Outfall Determination Form

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

- Enforcement Response Plan
- Permitting, Inspection and Enforcement Procedures for New Development
- Permitting, Inspection, and Enforcement Procedures for Capital Projects
- Contractor's Handbook for Erosion, Sediment, and Stormwater Management on Capital Project Construction Sites
- Permitting Packet for New Development and Redevelopment

POST-CONSTRUCTION STORMWATER MANAGEMENT

- Executive Summary Stormwater Management Form
- Enforcement Response Plan
- Compliance Policy for Stormwater Controls Located on More than Two Parcels
- Compliance Policy for Stormwater Controls that Exceed the Requirements of the Stormwater Manual
- Stormwater Management Guidelines for LFUCG Capital Projects

MUNICIPAL OPERATIONS

- Inspection and Correction Procedures

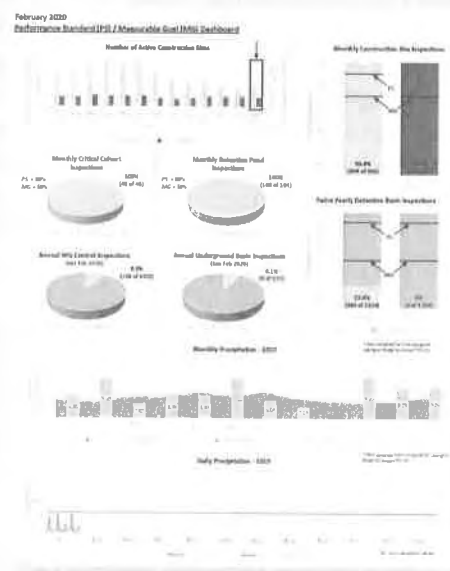
INDUSTRIAL FACILITIES

- Enforcement Response Plan

WATER QUALITY MONITORING

- Watershed-Focused Monitoring Program
- Quality Assurance Project Plans

FIGURE 5-3: 2019 PERFORMANCE STANDARD (PS) /MEASURABLE GOAL (MG) DASHBOARD

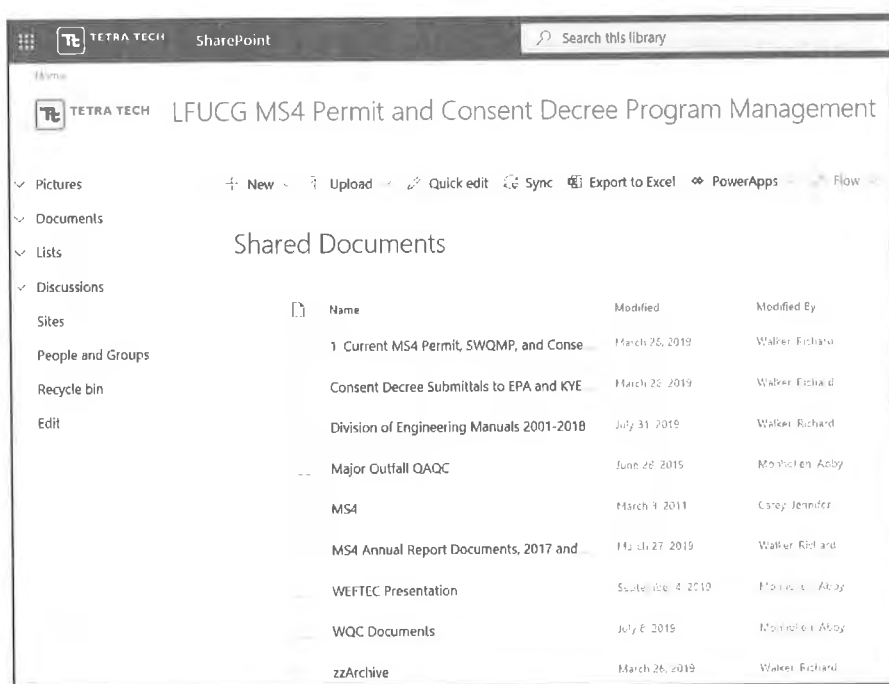


The dashboard is reviewed at the monthly coordination meetings conducted by Tetra Tech.

Our goal as the city's MS4 Program Manager has been to continuously empower city staff to perform more and more of the core tasks required by the Consent Decree and MS4 Permits. We have worked together with city staff to ensure they have ownership of the program. This has resulted in LFUCG staff taking on a continual increase in executing the core tasks and our consulting fees have declined over time. Figure 1-1 on page 3 visually demonstrates the savings achieved by Tetra Tech.

Tracking and documenting the Consent Decree and MS4 Permit requirement is a major responsibility of the MS4 Program Manager. It is a continuous process that culminates in the preparation of the annual report, which typically is around 1,200 pages. We have developed a SharePoint database that contains deliverables and relevant information since the beginning of the Consent Decree. In addition, we developed a database of Consent Decree and MS4 Permit tasks by program element and permit year that are reviewed each month with staff.

SharePoint Database and Excel Database



SUMMARY OF MEASURABLE GOALS AND PERFORMANCE STANDARDS										
A	B	C	D	E	F	G	H	I	J	
Measurable Goal or Performance Standard	Program Element	Measurable Performance Standard ID	Element Tagline/Activity	Description of Measurable Goal Performance Standard	Permit Year 1 (End 5/31/16)	Permit Year 2 (End 5/31/17)	Permit Year 3 (End 5/31/18)	Permit Year 4 (End 5/31/19)	Permit Year 5 (End 5/31/20)	Responsible Division
72	MG	CS	MG-CS-01	Control Pollutants	Ensure ordinances are in the assumption and assurance permit (or equivalent) controlling pollutants in discharges of stormwater runoff from construction sites in the MSD region in force.	X		X	X	DWG
73	MG	CS	MG-CS-02	Reduction of Existing Urban Runoff	Review and estimate existing problems in regard to the control of pollutants in discharges of stormwater runoff from urban areas in the storm water permit and practice ordinance. If needed to the United County Council as a long-term goal.			X		DWG
74	MG	CS	MG-CS-03	Review Procedures	Review and update, as needed, the procedures for temporary erosion of construction site erosion and sediment control and for review of other plans (assess) which measures the ability to control water runoff, erosion from construction project. Addressed at the United County Council as a long-term goal.					DOE
75	MG	CS	MG-CS-04	Implement Procedures	Continuous enforcement of the procedures for temporary erosion of construction site erosion and sediment control.	X	X	X	X	DOE
76	MG	CS	MG-CS-05	Conduct Review of Design Ordinances for Non-Structural and Structural Controls	Conduct a review of the design criteria in the stormwater Manual for erosion and sediment control at least once in the permit cycle.					DOE
77	MG	CS	MG-CS-06	SWPPP Ten updates	Review and update, as needed, the stormwater design plans and checklist for use by construction permit holders on a permit cycle.	X				DWG
78	MG	CS	MG-CS-07	Review Procedures and Checklists for Conducting Inspections	Review and update as needed construction site inspection and enforcement procedures and its current inspection checklist once per permit cycle.	X				DWG
79	MG	CS	MG-CS-08	Conduct Inspections	Conduct monthly inspections at all permit activity (75%) percent of active construction sites with violations submitted to discharge into the MS4 by the MS4. By following the construction site inspection and enforcement procedures, and the current inspection checklist.	X	X	X	X	DWG
80	MG	CS	MG-CS-09	Protocol to Designate Targeted Sites	Review and update, as needed, protocols for targeting active construction sites for additional inspections based on site location, history of construction site, compliance, proximity to water bodies. The types of the receiving water body. Typically, the results of site visits, types of stormwater and practices being used during construction sites per permit cycle.					DWG

FUTURE SUCCESS AND THE ROLE OF THE MS4 PROGRAM MANAGER

Tetra Tech has worked with LFUCG staff to take the MS4 program from non-compliance to an award-winning program. The city has met all 40 performance standards in the Consent Decree, all 153 MS4 Permit requirements, and passed four inspections by the Kentucky Division of Water. The program is on solid ground and can look forward to more success because the city is committed to funding the program, maintaining adequate staff levels, and putting **Compliance First**.

There have been questions about when the Consent Decree will end and what that would mean for the MS4 program. The answer is that we believe not much will change, and there will still be an MS4 Permit that requires the same actions that are currently being performed by city staff or the MS4 Program Manager. For example, the city will continue to inspect construction sites for compliance with the erosion and sediment control ordinance; illicit discharges must be investigated and eliminated; stormwater runoff from new development must be controlled; industrial facilities must be inspected for pollution; and water quality monitoring must continue.

As the program has matured, it is reasonable to expect the Program Management efforts to decline over time as the staff becomes acclimated to performing the long-term duties. The Program Manager's value then becomes one of performing the one-time tasks that are needed from time to time. For example, we recently completed a forensic analysis of four large construction sites with erosion and sediment control problems. In addition, there is value in having the Program Manager facilitate meetings to resolve enforcement issues that affect staff in several divisions, like what we do at the monthly coordination meetings.

FIGURE 5-5: MS4 PERMIT WHEEL



MS4 Program Areas

The challenge for any government program or business is to ensure that the money spent on a program generates the benefits that make it worthwhile. With respect to hiring an MS4 Program Manager, the city must be assured that they are getting value commensurate with the consulting fees. As mentioned previously, our fees have declined over time as the program has matured and staff have assumed the long-term duties. As we look ahead to the next five years, corresponding to the MS4 permit cycle, we see a further reduction in fees in some programs as described in the table below.

TABLE 5-2: FUTURE ROLE OF THE MS4 PROGRAM MANAGER

MS4 PROGRAM	ANTICIPATED FEE	WHY
Public Education	Decrease ↓	The program is well developed and managed by DES.
Public Involvement	Decrease ↓	The program is well developed and managed by DES.
Illicit Discharge Detection and Elimination	Decrease ↓	The current work includes Visual Stream Assessments for one watershed each year. The last watershed will be completed in 2022.
Construction Site Stormwater Runoff Control	Stay the Same ↔	This program involves staff in three divisions – DOE, DWQ, and DES. The coordination meetings conducted by Tetra Tech each month are highly effective at resolving difficult permitting, inspection, and enforcement issues.
Post-Construction Stormwater Management	Stay the Same ↔	This program involves staff in the three divisions mentioned above. The monthly coordination meetings are necessary to ensure the Stormwater Manual is properly applied to new development and redevelopment projects.
Municipal Operations	Decrease ↓	The program is well developed in DES.
Industrial Facilities	Decrease ↓	The program is well developed in the DWQ Compliance and Monitoring Section.
Regulatory Reporting	Stay the Same ↔	The annual report is primarily done by the DWQ MS4/Water Quality Section Manager. The PM assists in obtaining and compiling information for other divisions.
Water Quality Monitoring	Decrease ↓	The routine MS4 Permit monitoring will likely continue in the new permit, but the Watershed-Focused Monitoring will end in 2023.
TMDL Implementation	To be Determined	The TMDL Implementation Strategy was drafted by Tetra Tech in 2017 to identify the sources of bacteria in the streams. DWQ is in the process of determining the most effective way to move forward with the potential BMPs.

DWQ - Division of Water Quality

DOE - Division of Engineering

DES - Division of Environmental Services

SECTION 6

Degree of Local Employment



TETRA TECH

Section 6: Degree of Local Employment

LOCAL TETRA TECH TEAM

Tetra Tech's local office is located at 424 Lewis Hargett Circle, Suite 110, Lexington, KY. Tetra Tech is currently registered by the Commonwealth of Kentucky in accordance with KRS 322.060 to perform the engineering services needed for this project. Our Kentucky registration number is 1555.

We understand the importance of Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Business (VOSB) goals and are committed to providing meaningful women and minority participation at levels desired by LFUCG. Our track record on similar efforts demonstrates our commitment to, and success in, achieving or exceeding project-specific goals.

Our WBE has provided approximately 40% of the work for our current Program Management contract with LFUCG and is anticipated to perform the same percentage on the next contract.

To achieve and exceed your 10% MWDBE participation goal, we have enlisted the services of Third Rock Consultants to provide our team a highly qualified MBE. **Third Rock Consultants is located at 2526 Regency Road, Suite 180, Lexington, KY.**

To achieve your 3% Veteran-Owned participation goal, we have enlisted the services of **Salt River Engineering located at 108 West Poplar Street, Harrodsburg, KY.**

All of the work on the project will be done out of the local offices of Tetra Tech, Third Rock, and Salt River Engineering.



SECTION 7

Appendix



TETRA TECH

APPENDIX

Resumes



TETRA TECH

RICHARD WALKER, PE, CFM | PROJECT/PROGRAM MANAGER

Mr. Walker has a broad range of experience in civil and water resources engineering, hydrologic / hydraulic modeling, stormwater / floodplain management, water / wastewater engineering, and landfills. He has developed stormwater design manuals for municipalities that contain requirements for post-construction runoff, erosion prevention and sediment control, and green infrastructure. In addition, he has assisted cities with implementing stormwater utilities.

He is currently the MS4 program manager for the Lexington-Fayette Urban County Government where he is responsible for ensuring the city complies with the MS4 Permit and the stormwater provisions in the 2011 EPA Consent Decree.

**RELEVANT PROJECT EXPERIENCE****Municipal Separate Storm Sewer System Compliance, Lexington-Fayette Urban County Government (LFUCG), KY.** Program Manager.

Provides program management services to maintain compliance with the MS4 Permit and stormwater requirements of the EPA Clean Water Act consent decree. Develops procedures for the permitting, plan review, inspection, and enforcement of construction sites and post-construction stormwater management for new development and redevelopment. Directs the development of procedures for illicit discharge investigations, inspections of municipal facilities, and inspection/enforcement of industrial facilities. Develops training programs for staff involved in the inspection of construction sites, illicit discharges, and industrial facilities. Developed stormwater low impact development (LID) guidelines for new development and redevelopment. Directs the water quality monitoring program and development of TMDL implementation strategies. Assists the city with implementing the updated Stormwater Manual that contains the post-construction stormwater management requirements for new development and redevelopment. Conducts monthly coordination meetings with 25 staff in the city's stormwater program.

Stormwater Manual Update, LFUCG, KY. Program Manager. Developed new requirements for post-construction stormwater management in new development and redevelopment that addressed flood control, runoff reduction using green infrastructure, and water quality volume treatment. Also revised sections on floodplain management, erosion and sediment control, hydrology, inlets, storm sewers, culverts, and open channels. Developed a compliance Excel spreadsheet for design engineers that summarized the required Water Quality Volume / Runoff Reduction Volume and the proposed water quality controls. Conducted stakeholder involvement with home builders, developers, engineers, businesses, and citizen groups.

Water Quality Management Fee, LFUCG, KY. Program Manager. Directed the stormwater rate study for the city that involved the creation of the impervious area database and development of the enabling ordinance. The fee generates \$13M annually.

Engineering Manuals for New Development, LFUCG, KY. Project Manager. Developed engineering manuals that contained the design and construction standards for new development infrastructure. Conducted stakeholder

EDUCATION

Master of Civil Engineering (Water Resources), University of Kentucky, 1989

BS, Agricultural Engineering, University of Kentucky, 1982

**REGISTRATIONS/
CERTIFICATIONS**

Professional Engineer:
Kentucky, No. 15345

Certified Floodplain Manager,
2011

Qualified Inspector, Kentucky
Erosion Prevention and Sediment
Control, 2017

AFFILIATIONS:

National Society of Professional
Engineers

Association of State Floodplain
Managers

Water Environment Federation

YEARS OF EXPERIENCE

37

**TETRA TECH**

RICHARD WALKER, PE, CFM | PROJECT/PROGRAM MANAGER

involvement with elected officials, government agencies (planning, law, engineering, and sanitary sewers), developers, citizen groups, and engineering firms. Coordinated the work of four consultants who wrote the roadway, geotechnical, structures, sanitary sewer, and construction inspection manuals. Developed the Procedures Manual for Infrastructure Development, which described the role of the developer, engineer, and the government in the development process, beginning with the submission of construction plans and extending through home building. Primary author of the Stormwater Manual that established standards for flood control, water quality, and floodplain management.

Best Management Practice Planning and Specifications Manual, Kentucky Division of Water, KY. Project Manager. Co-author of the manual entitled KY Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites. The manual includes sections on regulatory considerations; guidance for developing a BMP plan; and technical specifications for site preparation, soil stabilization, slope protection, drainage system controls, sediment basins, stream and wetland protection, and good housekeeping. Conducted workshops on the manual with contractors, home builders, and state and local agencies.

Walhampton Stormwater Improvements, LFUCG, KY. Principal-in-Charge. Stormwater improvements project that involved the design of a detention basin and storm sewers to reduce flooding in the neighborhood. Provided QA/QC on the hydrologic/hydraulic model.

Expansion Area 2 Stormwater Master Plan, LFUCG, KY. Project Manager. Developed a stormwater master plan for 3,000 acres planned for new development. Directed a multi-disciplined team of engineers, biologists, and planners for the design of a stormwater management system of regional facilities and greenways. The project involved chemical and biological monitoring of the streams to establish baseline water quality conditions. A system of detention ponds, wetlands, riparian buffers, and greenways were proposed to control flooding and protect the water resources. The estimated cost of the facilities was \$10 million.

Danby Corners Letter of Map Revision, LFUCG, KY. Project Manager. Directed a flood study of the unnamed tributary of the I-75 Tributary and submittal of the LOMR application to FEMA.

Vaughn's Branch Flood Mitigation, LFUCG, KY. Project Manager. Directed the hydrologic and hydraulic analysis and preparation of the documentation needed to obtain FEMA mitigation funds.

Southland Drive Drainage Study, LFUCG, KY. Project Manager. Directed a drainage study that involved obtaining input from citizens by use of surveys and interviews. Prepared a report that summarized the citizen responses, severity of flooding, and potential solutions.

Detention Basin Survey and Evaluation, LFUCG, KY. Project Manager. Evaluated 50 detention basins and retention ponds for maintenance needs. Reviewed the plat of each basin, conducted a field investigation, identified maintenance problems, and prepared a cost estimate of needed repairs. Developed a maintenance program that involved a cooperative arrangement between the government and the property owner.

Stormwater Manual, LFUCG, KY. Project Manager. Developed the stormwater manual that contained requirements for post-construction runoff, floodplain management, flood control, culverts, storm sewers, open channels, and best management practices. Updated the manual in 2005, 2009, 2011.

North Elkhorn SWMM Model, LFUCG, KY. Project Manager. Directed the development of a hydrologic and hydraulic SWMM model for the North Elkhorn watershed. The work involved installing rain gauges and stream gauges, field investigation of control structures, determining inputs to the model such as percent impervious and soil infiltration parameters, and calibrating the model.

Floodplain Map Modernization Program, State of KY. Project Manager. Directed the hydrologic and hydraulic studies for the counties of Boyle, Clark, Christian, Montgomery, and Wolfe.

Stormwater Utility and Master Drainage Plan, City of Hopkinsville, KY. Project Manager. Developed a stormwater master drainage plan for the City that identified projects to address river flooding and surface drainage problems with a total construction cost of approximately \$22M. Assisted the City with implementing a stormwater utility to generate \$1M in annual revenues. Prepared a feasibility study for a flood control structure on the South Fork of the Little River.

HERB LEMASTER, PE | PRINCIPAL PROJECT ENGINEER

Mr. Lemaster serves on various civil and environmental projects. He is responsible for analysis and design, writing specifications, developing contract documents and cost estimates, preparation of construction drawings, construction administration, and construction engineering. Mr. Lemaster has worked on many solid waste landfill, water, wastewater, and environmental projects. His wastewater-related projects include rehabilitation evaluations of wastewater collection systems, capacity studies, design of gravity sewer systems, pump station design, and wastewater treatment plant design.

RELEVANT PROJECT EXPERIENCE

Idle Hour Park & Industry Road Culverts Analysis, Lexington Fayette County Urban County Government (LFUCG), KY. Project Manager and Senior Engineer. Design of improvements to provide access and aid in the removal of debris from the culvert and Idle Hour Park and replacement of the culvert at Industry Road to alleviate upstream flooding. The work involved hydrologic and hydraulic (H&H) modeling, surveying, public meetings with property owners, and preparing construction drawings and specifications and providing periodic inspections during construction.

Firethorn Extended Detention Basin Improvements, LFUCG, KY. Project Manager and Senior Engineer. Design of improvements to alleviate chronic standing water in an extended detention basin in a residential area. The work involved H&H modeling, public meetings with property owners, and preparing construction drawings and specifications to remove the existing sand filter and replace them with rock filters.

Walhampton Stormwater Improvements, LFUCG, KY. Project Manager and Senior Engineer. Design and construction administration of 900 feet of 36-inch storm sewer, 300 feet of 54-inch storm sewer, and a detention basin with a volume of approximately 80,000 cubic feet. The goal of the project was to reduce street and home flooding that had occurred since the early 1970's. Nine homes had a history of flooding, along with street flooding that temporarily made the streets impassable. The work involved H&H modeling of the stormwater system, surveying, assessing the physical condition of the storm sewers, identifying alternative solutions, attending public meetings, preparing design drawings and specifications and providing periodic inspections during construction.

Stream Restoration, Confidential Client, KY. Project Manager and Senior Engineer. Provide design/build, on-site engineering, and construction guidance services to restore 1,200 feet of stream. The natural stream had been eliminated during construction activities leaving a ditch to convey the water. The purpose of the project was to restore the stream back to a natural condition suitable for regional aquatic and wildlife inhabitants. The project required extensive coordination with US Army Corp of Engineers and Kentucky Division of Water to ensure that all necessary restoration requirements were met.

Vaughn's Branch Flood Mitigation, LFUCG, KY. Project Manager and Senior Engineer. Design and construction of a 7-acre detention basin upstream of Versailles Road, channel widening, and enlargement of four culverts. The completed project was intended to protect five structures against the 500-year



EDUCATION

MS, Civil Engineering (Environmental), University of Kentucky, 1992

BS, Civil Engineering, University of Kentucky, 1990

AS, Prestonsburg Community College, 1988

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer: Kentucky, No. 19309

Land Surveyor-in-Training: Kentucky, No. 1232

Troxler Nuclear Gauge Certification, No. 093841

Permit-Required Confined Space Entry Training

AFFILIATIONS:

National Society of Professional Engineers

Kentucky Society of Professional Engineers

YEARS OF EXPERIENCE

30



TETRA TECH

HERB LEMASTER, PE | PRINCIPAL PROJECT ENGINEER

flood, seven structures against the 100-year flood, and 15 structures against the 10-year flood. The work involved project coordination and public meetings; environmental design and permitting; flood mitigation design; and bidding and construction services. Unique design elements included the use of precast, full span culverts and bank stabilization using Filtrexx Soxx and Rosetta hardscape walls. Tetra Tech prepared the mitigation grant application, conducted conceptual design and stormwater modeling of the project, and prepared the FEMA Conditional Letter of Map Revision. LFUCG was awarded a stormwater award for the Vaughn's Branch project by the American Public Works Association's Kentucky Chapter. Prepare stormwater best management plans at various facilities.

West Hickman Wet Weather Storage Facility, LFUCG, KY. Project Manager. Design of the wet weather storage facility and improvements to the headworks of the existing treatment plant. The project includes new screening facilities, new grit facilities, 70 MGD influent pump station, 80 MGD wet weather pump station, two 22 MG storage tanks, recycle pump station, upgrades to the non-potable water system, stormwater management facility, a vehicle bridge, and all associated piping and electrical. The work involved H&H modeling, surveying, and geotechnical evaluations. The project required significant coordination of civil, structural, mechanical, electrical, instrumentation, and plumbing disciplines in the preparation of the design drawings and specifications. Full time resident project representatives and construction administration was provided during the construction phase of the project.

Wolf Run Wet Weather Storage Facility, LFUCG, KY. Project Manager. Design and construction of this facility. The design includes a 1.8 MG wet weather storage tank, 7.3 MGD wet weather pump station, and all associated structures piping. The work involved H&H modeling, surveying, and geotechnical evaluations. The project required coordination of civil, structural, mechanical, electrical, and instrumentation disciplines in the preparation of the design drawings and specifications. Full time resident project representatives and construction administration was provided during the construction phase of the project.

Rental Car Facility, Blue Grass Airport, Lexington, KY. Project Manager and Senior Engineer for the civil and structural disciplines of the design and for providing the resident project representative during construction. Tetra

Tech prepared the stormwater management plan and civil site plans for the facility. The facility includes 15 acres of asphalt stacking lanes for rental car storage/parking, three interior carwash bays and maintenance bays, fueling islands, and fuel storage facilities. The stormwater management included a 278,000 cubic feet extended detention basin. The work included H&H modeling of the stormwater system and obtaining permits and approvals from the local government agencies. Tetra Tech coordinated and completed the necessary design work for the relocation of all existing utilities including water, sewer, electric, cable and gas.

Haley Pike Landfill Closure, Fayette County, KY. Provided design, bidding and construction administration services to close the landfill. This project is a multiphase closure of a 105-acre facility with a regulatory cap. The design included surveying, assessing physical conditions of existing facilities and drainage conveyance systems, hydrologic and hydraulic modeling of the stormwater system, preparing construction drawings and specifications and providing construction administration and resident project representative services during construction.

Raven Run Landfill, Kentucky Division of Waste Management, Lexington, KY. Provided design, bidding, and construction administration services to close this old landfill and develop an effective alternative treatment system for leachate. This facility is located within a natural park maintained by local government. The design used natural systems such as phytoremediation techniques and bioswales accomplish leachate treatment. Design included consolidating waste into the smallest area possible, leachate collection system, and stormwater management.

Haley Pike Constructed Wetlands Design for Haley Pike Landfill Closure, Fayette County, KY. This innovative closure plan involved a 97-acre landfill, the largest landfill closure to-date in Kentucky. Key closure features included the innovative design of an equalization basin and man-made wetlands to treat large quantities of leachate during the post-closure life of the facility. This system replaced the practice of pumping leachate from 30 manholes and hauling it 20 miles to the client's treatment plant, resulting in significant savings over the post-closure life of the facility.

LUCY PACHOLIK, EIT | PRINCIPAL PROJECT ENGINEER

Ms. Pacholik provides engineering, technical, and clerical support for environmental compliance projects for private, commercial, industrial, and government clients. This work includes air, water, and waste permitting; spill response plans including SPCC, BMP and GPP; data analysis and emissions evaluations for multiple facilities under a major national environmental contract; and project report technical quality control reviews. She is knowledgeable about the collection, preservation, and transporting of samples for analysis, as well as experienced in the operation and calibration of water and wastewater parameter monitoring devices and sequential samplers. In addition, Ms. Pacholik oversees the annual renewal and continual compliance of Tetra Tech's Kentucky Wastewater Laboratory Certification Program.

RELEVANT PROJECT EXPERIENCE

Municipal Separate Storm Sewer System (MS4) Program, Lexington-Fayette Urban County Government (LFUCG), KY. Project Engineer. Assists with updated Lexington's critical culverts GIS database for the Stormwater Quality Management Program as part of the consent decree. Assists with analysis of various post-construction water quality controls, including hydrologic models and water quality sampling. Also created spreadsheet to aid LFUCG in meeting time-specific consent decree requirements. Assisted with submitting annual MS4 report to the US Environmental Protection Agency.

West Hickman Wet Weather Storage Facility, LFUCG, KY. Project Engineer and Construction Administrator. Assisted in construction permitting process, specification review, and preparing submittals to LFUCG and KIA. Assisted in analyzing proposed stormwater management options for the development site including detention facilities and erosion control measures. The development includes two 22 MG storage tanks and a new headworks facility.

Wolf Run Wet Weather Storage Facility, LFUCG, KY. Project Engineer and Construction Administrator. Assisted in specification and plan review as well as preparing submittals to LFUCG. Reviewed field reports and verified contractor and subcontractor compliance with project's U.S. Department of Housing and Urban Development wage determination.

Firethorn Detention Basin Improvements, LFUCG, KY. Project Engineer. Performed hydraulic modeling for redesign of failing detention basin using Bentley PondPack software. Assisted with initial cost estimates, surveying, grading/topological design, and creation of project specifications.

Risk Management Plans, LFUCG, KY. Project Engineer. Maintains risk management plans for wastewater treatment plants, including compliance audits, process hazard analyses, and offsite consequence analyses. Provides staff training for risk management plans.

Confidential Client, 22 Locations across KY. Project Engineer. Maintains precipitation logs for 22 packaging distribution facilities for compliance with KPDES permits.

Henry County Water District No. 2, Campbellsburg, KY. Hydraulics /



EDUCATION

MS, Civil Engineering, University of Kentucky, May 2019

BS, Civil Engineering, University of Kentucky, 2017

BA, Arts and Sciences, University of Kentucky, 2008

REGISTRATIONS/ CERTIFICATIONS

Engineer in Training, KY, No. 15653, 2018

USEPA Method 9 Opacity Certification

Kentucky Erosion Prevention and Sediment Control (KEPSC) Certified Inspector

CPR and First Aid Training

YEARS OF EXPERIENCE

4



TETRA TECH

LUCY PACHOLIK | PRINCIPAL PROJECT ENGINEER

Modeling Engineer. Analyzes the hydraulic performance of the District's water distribution system under current and future demands using KYPipe modeling software. Develops model scenarios to analyze proposed infrastructure alternatives and recommended pipe diameters, connection points, and pumping improvements.

Hardin County Landfill, KY. Project Engineer. Produces quarterly surface water and groundwater reports for submittal to regulatory agencies. In addition, she conducts the quarterly groundwater, surface water, leachate, and methane monitoring. Conducts statistical analysis of groundwater sampling results. Completes semi-annual air monitoring reports for submittal, and annual air compliance certification and emissions inventory. Maintains air permitting records and submits air permit renewal documents.

Maxey Flats Disposal Site, Fleming County, KY. Construction Administrator. Managed all construction submittals.

Confidential Client, Winchester, KY. Project Engineer. Assisted with the development of groundwater monitoring wells.

Novelis Aluminum, Berea, KY. Project Engineer. Assists in developing stack testing protocol, as required by air permit. Assists plant staff with air permit reporting.

Polyair Packaging, Bardstown, KY. Project Engineer. Completes semi-annual air monitoring reports for submittal, and annual air compliance certification and emissions inventory. Maintains air permitting records and assists in submitting air permit renewal documents. Assists in preparing and submitting annual Tier II reports. Assists in maintaining risk management plan, including compliance audits, process hazard analyses, and offsite consequence analyses.

Walle Corporation, Winchester, KY. Project Engineer. Assisted in preparing Title V construction and renewal permits for label and packaging company.

Education Realty Trust, Memphis, TN. Project Engineer. Assisted in preparing and submitting air permit registrations for 13 student dormitories located on the University of Kentucky campus.

Blue Grass Airport, Lexington, KY. Project Engineer. Assisted with environmental monitoring program. Duties included reporting and coordination of NPDES monitoring, STI001 inspections, Intergraded Spill Plan updates, and maintenance of flow meters. Submitted

Tier II reports. In addition, she assisted in monitoring and maintaining analyzer equipment that controls and segregates glycol runoff from clean stormwater.

Rental Car Quick Turn Around (QTA) Facilities, Blue Grass Airport, Lexington, KY. Project Engineer. Assisted with grading/topological design, stormwater design, specification review, and initial cost estimates.

Spill Prevention Control and Countermeasure Plans

Berea College, Berea, KY. Project Engineer. Assisted with updating SPCC and GPP.

Firestone, Williamsburg, KY. Project Engineer. Reviewed site assessment and assisted with updating SPCC, SWPPP, and GPP for facility.

Confidential Client, Bowling Green, KY. Project Engineer. Reviewed site assessment and assisted with updating SPCC and GPP.

Confidential Client, Louisville, KY. Project Engineer. Reviewed site assessment and assisted with updating SPCC.

Individual Experience, Kentucky Water Resources Research Institute, University of Kentucky.

Undergraduate and Graduate Research Assistant. Prepared Watershed Sustainability Report for Jim Beam Distillery in Boston, Kentucky. Helped organize stakeholder event at Clermont Distillery in Clermont, Kentucky; assisted with comprehensive water balance model for Maker's Mark Distillery in Loretto, Kentucky; and conducted water quality sampling in and around two Jim Beam Distilleries. Conducted research on a pilot scale membrane system for groundwater treatment at a contaminated site in Louisville, Kentucky.

ABBY MONHOLLEN, EIT | PRINCIPAL PROJECT ENGINEER

Ms. Monhollen has worked extensively with the city of Lexington's MS4 program. She is knowledgeable of the city's policies and requirements in relation to the Consent Decree and MS4 Permit.

RELEVANT PROJECT EXPERIENCE

Municipal Separate Storm Sewer System (MS4) Program, Lexington-Fayette Urban County Government (LFUCG), KY. Attends monthly Stormwater Program Implementation Team Meetings and Division of Water Quality/Division of Engineering/Division of Environmental Services Coordination Meetings. Updates monthly dashboard summaries of LFUCG inspection numbers. Performed analysis of current Major Outfall inventory to search for suspect outfalls in relation to the Stormwater Quality Management Program. Searched for unmapped 18" and larger outfalls in Rural Urban Service Areas as part of the Stormwater Quality Management Program. Performed analysis of GIS generated drainage areas for major outfalls. Applied for KDOW and USACE permits for detention basins requiring maintenance. Prepares MS4 Permit Annual Reports.

West Hickman Wet Weather Storage Facility, LFUCG, KY. Assisted in preparing field order submittals to LFUCG. Assisted in analyzing solutions for grit removal process challenges.

Confidential Client, 22 Locations across KY. Assists with the updating of precipitation logs for 22 packaging distribution facilities for compliance with KPDES permits.

Southeast Macomb County Metropolitan Sewerage District

Apportionments. Performed extensive analysis on flow meter and model data from EPA SWMM. Assisted with the calculation of wet weather and dry weather flows. Assisted with apportionment calculations for communities in the Southeast Macomb County Metropolitan Sewerage District.

Hardin County Landfill, KY. Produced worksheets for the analysis and reporting of chloride levels in leachate. Assisted with the development of hazardous air pollutants (HAPs) reporting spreadsheet. Calibrated instruments for field tests.

Blue Grass Airport, Lexington, KY. Assisted with environmental monitoring program. Duties included operation of runoff diversion pond and record-keeping of flow volumes. Assisted in monitoring and maintaining analyzer equipment that controls and segregates glycol runoff from clean stormwater.

PREVIOUS EMPLOYMENT

Individual Experience, Lexington-Fayette Urban County Government Division of Water Quality. Intern. Conducted inspections of detention basins, retention basins, and water quality BMPs. Assisted with the South Elkhorn Watershed Focused Monitoring Program. Collected grab samples from streams and outfalls. Performed field analysis on water samples. Assisted with research for the calculation of water quality management fees.

**EDUCATION**

BS, Civil Engineering, University of Kentucky, 2019

REGISTRATIONS/ CERTIFICATIONS

Engineer in Training:
Kentucky No. 15830

Kentucky Erosion Prevention
and Sediment Control Certified
Inspector No. 191100259, 2019

AFFILIATIONS:

American Society of Civil
Engineers

Society of Women Engineers

YEARS OF EXPERIENCE

2

**TETRA TECH**

MAC HALL, EIT | PRINCIPAL PROJECT ENGINEER

Mr. Hall is a civil engineer involved with Third Rock's water quality monitoring. He is currently an integral part of Third Rock's Water Quality Monitoring and Watershed-Focused Monitoring teams.

RELEVANT PROFESSIONAL EXPERIENCE

In his role as the data manager for LFUCG's MS4 Water Quality Monitoring and Watershed-Focused Monitoring QAPPs, Mac is involved in every aspect of those programs from grab sampling to statistical analysis of resulting data. His experience using statistical and other science-based methodologies to understand large amounts of watershed-scale data is invaluable. He is responsible for coordination of Third Rock's subcontract labs and quality assurance, including review and reconciliation of all electronic data deliverables. He also plays a key role in LFUCG's watershed-focused monitoring program, with various responsibilities including, but not limited to, calculating pollutant loadings and isolating them to sub-watersheds for incremental analysis.

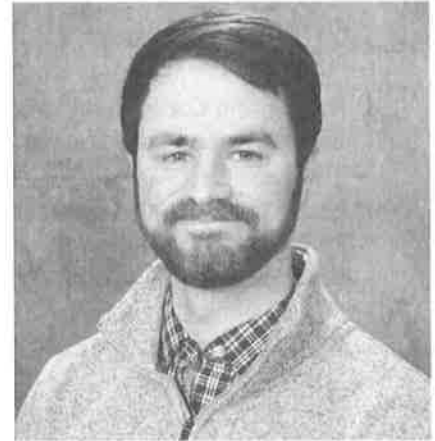
Mac contributed to the development and implementation of LFUCG's Baughman Fork Project Management Plan to assess and document the streams status regarding WAH designated use for the Kentucky Division of Water. To that end, he coordinated the collection of benthic macroinvertebrate, stream habitat, and water quality data collected from both Baughman Fork and UT of Baughman Fork and was responsible for review and reconciliation of all electronic data deliverables prior to submittal to the Kentucky Division of Water.

Mac also works with Third Rock's restoration design team to develop natural channel design for clients including the Kentucky Finance and Administration Cabinet and Tennessee Department of Transportation. His involvement ranges from in-situ water quality measurements and geomorphological survey to development of relations of flow and sediment transport.

RECENT LFUCG TASK ORDER EXPERIENCE

Mac assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Assist DES/DWQ with developing the content of the Watershed Health Assessments
- Participate in Stormwater Stakeholder Advisory Committee meetings
- Conduct Visual Stream Assessment for East Hickman, including updating the major outfall inventory
- Collect rainfall data in the Wolf Run watershed in support of the Derby Drive Investigation
- Update the inventory and map of stream restoration projects
- Results QA / Accela Entry - 2nd Quarter 2019 WQ Results
- Results QA / Accela Entry - 3rd Quarter 2019 WQ Results
- Results QA / Accela Entry - 4th Quarter 2019 WQ Results
- Results QA / Accela Entry - 1st Quarter 2019 WQ Results
- Results QA / Accela Entry - Macro / Habitat Results
- Annual Report



EDUCATION

BS in Civil Engineering,
Environmental Engineering
Concentration, University of
Kentucky, 2018

REGISTRATIONS/ CERTIFICATIONS

Engineer-in-Training:
Kentucky No. 15691

KY Erosion Prevention & Sediment
Control Roadway Inspector,
No. 191100249

Metropolitan Sewer District
Erosion Prevention and Sediment
Control Contractor, No. 15705019

AFFILIATIONS:

National Society of Professional
Engineers

Kentucky Stormwater Association

YEARS OF EXPERIENCE

2



MAC HALL | PROJECT ENGINEER

- Monitoring Coordination and Project Management
- East Hickman Water Quality Discharge Curves (17 Sites) and Technical Memo
- East Hickman Water Quality Monitoring - Phase I Field Screening (4 Events)
- West Hickman Water Quality Monitoring - Phase II PCR Loading (10 Events)
- West Hickman Water Quality Monitoring - Technical Memo
- West Hickman Priority Area Upland Assessment - NSA
- West Hickman Priority Area Upland Assessment - Technical Memo
- West Hickman WFMP Report
- Volunteer Training (2 x during CY5)
- Monitor Impaired Waters - Wet Weather 3rd / 4th Quarter 2019, 1st Quarter 2020
- Baughman Fork Delisting - Monthly QA/QC and reporting

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2020
- An Introduction to HEC-RAS Culvert Hydraulics, ASCE, 2020
- HEC-RAS Errors, Warnings, and Notes, ASCE, 2020
- Troubleshooting Unsteady Flow - HEC-RAS Models, ASCE, 2020
- Post-Construction Stormwater Management Workshop, LFUCG, 2019
- KEPSC for Roadway Inspectors Qualification Course, Kentucky Transportation Center, 2019
- MSD EPSC Ordinance / Contractor Training, 2019
- FHWA Traffic Noise Model 2.5, Bowlby and Associates, 2018
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2018

CAROL HUFNAGEL, PE | NATIONAL TECHNICAL ADVISOR

Ms. Hufnagel has worked on consent decree programs for the majority of her 35-year career. This has included work with major communities on CSO and SSO control programs as well as green infrastructure/stormwater management. Her understanding includes a range of technical, institutional and regulatory issues. Projects performed have included such diverse aspects as hydrologic and hydraulic analysis, selection and implementation of a wide variety of control technologies, regulatory and financial assessments and public and stakeholder outreach. Her background provides an understanding of the best application of green infrastructure into a multipronged approach to achieve regulatory compliance and improve the level of service to local residents. Ms. Hufnagel's stormwater focus projects have included work in Detroit, Omaha, St. Louis and Pittsburgh (3 Rivers Wet Weather). These widely varying institutional settings and economically positioned communities highlight the critical importance of tailoring green infrastructure to the community circumstances, priorities and opportunities. She also led the development of the WEF publication, "Green Infrastructure Implementation", with a primary focus on programmatic aspects of green infrastructure and how to implement it from an institutional perspective.

RELEVANT PROJECT EXPERIENCE

Green Stormwater Infrastructure (GSI) Program Management, Detroit Water and Sewerage Department (DWSD), Detroit, MI. Program Manager and Technical Advisor. Activities included: program management and administration; planning, evaluation, and selection of projects; coordination with institutional partners and agencies for implementation of those projects; project design; public outreach and stakeholder coordination; and project implementation. Additional activities include code and ordinance development, interdepartmental coordination and support for DWSD's drainage charge program. Planning work included a specialized prioritization framework that ranked locations for GSI based on their stormwater gallon: CSO gallon ratio, per acre cost of "gray" CSO control, incidence of basement backup, and potential to provide social benefit to the area. GSI has included low impact development techniques, larger scale GSI practices (up to 100 acres of tributary area), and selective sewer separation with direct discharge to the receiving water and stormwater quality measures. Projects are evaluated based on impact (size), cost effectiveness (\$/gallon managed) and social benefit. Contract value: \$16M.

CSO Program Support, Department of Public Utilities, Seattle, WA. Technical Lead. Program Management Support efforts associated with the ongoing implementation of Seattle Public Utilities CSO Program. Activities included preparation of the CSO Reduction Program Update (2019) that identified future implementation to account for climate change and under performance of previously implemented projects. The update incorporated concepts new to Seattle's program including flow reduction (multiple approaches not fully dependent on infiltration), and area wide planning versus outfall by outfall project definition. Other activities included in the effort involve strategy consultation to SPU's regulatory compliance team, risk evaluation and management, monitoring and assessment of the program's ability to achieve regulatory compliance, coordination with King County (regional wastewater agency) and compliance monitoring and modeling.



EDUCATION

MS, Civil Engineering, University of Michigan, 1991

BS, Civil Engineering, University of Michigan, 1984

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer:
Kentucky, No. 26639

AFFILIATIONS:

Water Environment Federation

American Society of Civil
Engineers

YEARS OF EXPERIENCE

35



TETRA TECH

CAROL HUFNAGEL, PE | NATIONAL TECHNICAL ADVISOR

Consent Decree Capacity Evaluation Support, Houston, TX. Project Manager. This work includes providing support to Houston Public Works for planning and execution of capacity evaluation and condition assessment work. These studies are intended to assess system improvements needed to remove overflows, extend useful life, reduce operations and maintenance, achieve consolidation of some facilities and improve resiliency. Tetra Tech is developing standardized processes and evaluation approaches for these studies and assisting the City in coordination of planning consultants.

CSO Green Infrastructure Study and Design, City of Omaha, NE. Project Manager. Study phase (including conceptual design) of projects related to the City's CSO control program. Evaluation included identification of a broad range of opportunities, and the development and assessment of green infrastructure projects that will support the control of CSO discharges for equal or lower cost than traditional controls. Overall, five major neighborhood scale projects were selected. Projects are controlling stormwater internal to combined areas and resulting in significant end of pipe CSO reduction. Estimated cost for control of the stormwater associated with the 3-month storm event is less than \$40,000/acre. Modeling performed demonstrated that the selected projects could reduce approximately 5 percent of the annual CSO volume for 1 percent of the program cost. From 2015-2017, project manager/project director as project advanced to include design efforts for surface and subsurface practices, at Vinton Street (constructed), in the Field Club Trail corridor (advanced to 30%) and in Hanscom Park (100% design).

Green Infrastructure Plan for CSO Control, St. Louis MSD, MO. Technical Advisor to St. Louis MSD staff who internally prepared their consent decree required green infrastructure plan. Ms. Hufnagel assisted in identification of strategies to implement green infrastructure for maximum CSO control benefit and regulatory compliance. St. Louis goal is overall 10% volume reduction for outfalls to the Mississippi River with an expenditure of \$100 million.

National Demonstration of Advanced Drainage Concepts Using Green Infrastructure for CSO Control, Kansas City, MO. Author and Researcher. Technical report assessing best practices and application of green infrastructure in CSO control programs in 12 major cities. Report was prepared as a special product of the overall study and evaluated the extent to which green infrastructure was blended with traditional

controls to achieve regulatory compliance. Best practices for opportunity identification, program implementation, and technical evaluations (GIS, modeling) were reviewed. Issues of regulatory acceptance, embodiment of green infrastructure into consent decrees and strategies to inter-jurisdictional issues that may result in barriers to implementation were included in the assessment. Work in Kansas City involved the performance assessment and evaluation of a 100-acre distributed system of green infrastructure practices to control CSO discharges. Acted as the technical advisor to the base project. Cost: \$1.2M.

SUSTAIN Case Study Applications, Kansas City, MO, Louisville, KY, and Albuquerque, NM. Lead Technical Reviewer. Implemented case study applications. Kansas City and Louisville case studies evaluated the use of green infrastructure for CSO mitigation and involved calibration of SUSTAIN to existing models (InfoWorks, XP-SWMM) and modeling a variety of best management practices. Applications evaluate the cost-benefit relationships between green and grey infrastructure and identify the least-cost combinations of green and gray infrastructure to achieve the regional overflow exceedance frequency target. Published findings in EPA report (EPA/600/R-11/144, 2012). Cost: \$300k.

Green Infrastructure Planning and Citizen Tool, 3 Rivers Wet Weather, Pittsburgh, PA. Concept Development/CSO Lead. Development of a web-based system to provide municipal officials, engineers, and property owners in the ALCOSAN service area with a means for integrating green infrastructure into the region's wet weather plan in a way that is appropriate, cost-effective, and sustainable. Project evaluated the optimal locations for green infrastructure placement to reduce combined sewer overflows and generated a computerized placement tool that assesses hydrologic and physical characteristics in selected areas. Product included best management practice (BMP) response curves for unique combination of BMP type, soil type and slope in SWMM and SUSTAIN for use in the back end of a web-based BMP placement and performance assessment tool. Cost: \$200K.

PUBLICATIONS

- *Prioritizing Green Infrastructure in Detroit's Urban Landscape.* Jamie Brescol, Carol Hufnagel, Tom Jackson, Palencia Mobley. WEFTEC 2017
- *Green Infrastructure in CSO Control Programs: The Dollars Must Make Sense.* Carol Hufnagel. WEFTEC 2016. Subsequently published in *Water Environment and Technology Magazine (WET)* July 2017.

DAN CHRISTIAN, PE, D.WRE | NATIONAL TECHNICAL ADVISOR

Dan is a Senior Project Manager and Water Resource Engineer for Tetra Tech and brings over 30 years of experience in a wide variety of integrated stormwater management and water resource projects. He has worked extensively in the areas of urban storm drainage analysis and problem solving, flood control, master plans, watershed plans, low impact development, green infrastructure and watershed resiliency. Mr. Christian has prepared numerous studies, master plans, and designs for a wide variety of stormwater control measures including traditional gray infrastructure and green infrastructure solutions. His clients include federal, state, county and local government entities as well as non-profit organizations located throughout the U.S.

Policies, Procedures, and Guidance: Mr. Christian has worked on revisions to numerous municipality's stormwater policies, procedures, and technical reference manuals. He is currently editing two chapters of the Design and Construction of Urban Stormwater Management Systems for ASCE (MOP 77) and WEF (MOP FD-20). Dan recently completed a Stormwater Management Design Manual for the Detroit Water and Sewerage Department. He was on the Technical Advisory board for the development of the Michigan LID Manual. He led the creation of a LID Stormwater Techniques Design and Installation Manual for the Lower Maumee and Ottawa River Watersheds under a contract with American Rivers. He has also led a series of papers on overcoming real and perceived barriers to green infrastructure in Pittsburgh PA. In addition, he provided technical support to the U.S. Environmental Protection Agency (USEPA) with federal stormwater rule-making.

Regulatory Compliance: Mr. Christian has been involved in the stormwater NPDES permit issues since 1990 with both Phase I of the MS4's program as well as the industrial permits. Again in 1999 with the development of the Phase II rules, he helped communities prepare for the upcoming permit applications and with the implementation tasks. Overall, Dan has assisted over 100 communities with their MS4 permit requirements. He worked with the Michigan Department of Transportation (MDOT) beginning in 1995 with monitoring aspects of their permit program and then took over as Project Manager for their stormwater program from 1999 to 2009. He has helped with all aspects of the permit programs including the planning, implementation, and assessment of the public education and participation, illicit discharge detection and elimination, soil erosion from construction sites, post development runoff for new and significant redevelopment, and good housekeeping practices.

Green Stormwater Infrastructure Studies, Design, Construction, and Post Construction Monitoring and Assessment: Mr. Christian has prepared numerous studies and designs for a wide variety of stormwater control measures such as rain gardens, bioretention, infiltration, porous pavement, water conservation, and others. Mr. Christian's work often involves green infrastructure in roadway corridors as well as site developments. Dan has followed the projects through construction and has conducted post construction monitoring of the practice to assess the performance. Dan recently completed a Green Infrastructure Performance Assessment guide (Grand Rapids MI) for the city to manage their green infrastructure assets.

**EDUCATION**

BS, Civil Engineering, Michigan State University, 1990

MS, Civil Engineering, Michigan State University, 1995

**REGISTRATIONS/
CERTIFICATIONS**

Professional Engineer:
Kentucky No. 29189, 2013

Diplomate, Water Resources
Engineer

AFFILIATIONS:

American Academy of Water
Resources Engineers

American Society of Civil
Engineers

American Water Resources
Association

Environmental & Water Resources
Institute

Soil Science Society of America
Water Environment Federation

YEARS OF EXPERIENCE

30

**TETRA TECH**

DAN CHRISTIAN, PE, D.WRE | NATIONAL TECHNICAL ADVISOR

RELEVANT PROJECT EXPERIENCE

Genesee County NPDES MS4 Permit Compliance, Genesee County Drain Commissioner, MI. Project Manager responsible for permit applications preparation including the mapping, illicit discharge elimination plan, and public education plan. Assistance with implementation of the permit requirements followed the permit application for many of the communities. Typical implementation assistance focuses on EPA six minimum measures plus developing budgets, annual reports, watershed management planning, stormwater management planning, stormwater pollution prevention initiatives, grant writing for implementation money, facilitating stakeholder workshops, focus group meetings, and community meetings. The county-wide program encompasses 25 local units of government in addition to the County.

Climate Resiliency and Flooding Mitigation Study, SEMCOG and MDOT, MI. Senior Project Manager. The first task begins by examining the Metro Region's current transportation flooding problems, investigating the changing climate, and explaining the implications of anticipated future weather conditions. An updated risk assessment is conducted to identify and prioritize transportation assets subject to flooding. Recommendations are made for long-range transportation planning and stormwater design criteria. Where the first major task takes a large scale look at the entire SEMCOG region, the second task looks at addressing specific site scale problems. The focus is to address flooding in areas of depressed freeways associated with pump station problems. An integrated holistic approach is taken to consider runoff sources and present ideas that address the flooding in a sustainable and resilient way going well beyond bigger pumps and pipes. In addition to analyzing specific problems this task develops a framework to guide future hydrologic/hydraulic analysis.

Green Infrastructure Program, Detroit Water & Sewerage Department (DWSD), Detroit, MI. Senior Technical Lead. The overall program includes planning, evaluation, design, and implementation of green infrastructure projects in the Upper Rouge watershed and other locations within the City identified by DWSD. The City has experienced extensive depopulation and projects will need to take advantage of specific opportunities associated with resultant open space within the City. At the same time, green infrastructure is expected to improve the quality of life in neighborhoods. The program is a NPDES permit requirement and a component of the CSO control program. Performance

expectations include removal of 2.8 MG of stormwater during the two-year, 24-hour event. Activities under the contract include: program management and administration; planning, evaluation, and selection of projects; coordination with institutional partners and agencies for implementation of those projects; project design; green infrastructure messaging and publicity campaign; and project implementation.

Stormwater Collection System Modeling, Design and Benefit Tools, and TMDL Implementation Planning, City of Grand Rapids, MI. Senior Water Resource Engineer leading the technical components of the project. The project includes the development of a stormwater collection system model for the entire which covers more than 45 square miles with 500 miles of storm sewer and open channels to convey stormwater to larger watercourses. A flow monitoring plan that included 70 flow meters was developed for use in model calibration of flow volume and rate. An impervious cover analysis was completed by a subconsultant and used to set the primary modeling calibration parameters. Radar rainfall was used to create temporal and geographic distribution for the model calibration. The model calibration was completed using a combination of optimization software and engineering judgment. Model results will be integrated with water quality modeling effort being performed by the City on the Grand River and other permanent watercourses. A TMDL implementation plan was developed to identify and remove pollutant sources to the Grand River. A suite of design and benefit tools were developed to assist the City.

USEPA Green Infrastructure Technical Assistance Program, Nationwide. Senior Technical Lead. Municipalities were awarded technical assistance from USEPA through a competitive proposal process. The assistance was tailored to each community based on their individual needs. Processes and tools to improve consistency in decision making and reduce barriers for inclusion were developed for Omaha NE. In Gary IN, strategies and conceptual designs were developed to reduce stormwater to their overwhelmed combined sewer system through green infrastructure incorporated into streets and vacant parcels. For St. Paul MN, a centralized green infrastructure system incorporating natural stream-like water features with adjacent wetlands was designed as a shared public-private stormwater management facility. In Pittsburgh PA the project developed educational materials for technical professionals, public officials, and the public to address perceived and real barriers to designing, installing and maintaining green infrastructure.

BARRY TONNING | POLICY ANALYST

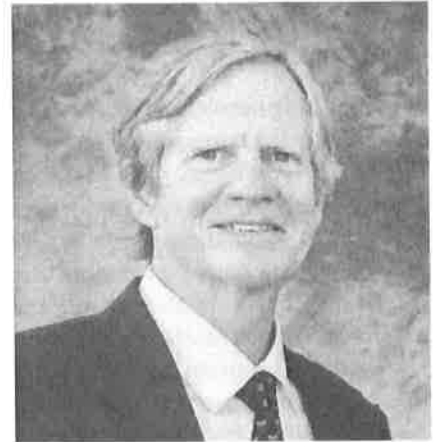
Mr. Tinning is a senior level water quality planning and management consultant specializing in stormwater management, nonpoint source pollution control; environmental regulatory compliance; and risk assessment, communication, and management. Mr. Tinning is also an experienced facilitator, trainer, and communications expert, supporting the U.S. EPA's national nonpoint source pollution program, the federal interagency Gulf of Mexico/Mississippi River Hypoxia Task Force, tribal water resources training and watershed management programs, and construction site stormwater permit compliance. He has also supported water quality standards development (uses, criteria, anti-degradation), technology transfer, and technical writing/editing tasks.

RELEVANT PROJECT EXPERIENCE

Stormwater Management Program MS4 Permit and Consent Decree Compliance, City of Lexington KY. MS4 Program Management Support, Trainer, and Program Evaluation and Improvement Consultant and Trainer for the City of Lexington's MS4 stormwater compliance program, which was mandated by a federal Consent Decree related to various Clean Water Act (CWA) compliance issues. Provided support for program management and development, ordinance review and updating, policies/procedures development, inspection protocols, stormwater manual revisions, and other support for public outreach, involvement, illicit discharge detection and elimination (IDDE), and post-construction permit requirements. Developed and delivered training materials, conducted specialized workshops, and worked with staff involved in the stormwater program. Conducted inspections, developed a Stormwater Pollution Prevention Plans (SWPPP) template for construction contractors, conducted training programs for city staff and outside contractors, and provided consultation on various stormwater topics.

Stormwater Field Guide, Technical Specifications Manual, and Training Program, Kentucky Division of Water, Various Cities, KY. Conducted research on construction site erosion, sediment, and stormwater management approaches in various states and localities during 2004-2006; wrote and produced new statewide Field Guide on construction site stormwater runoff control in 2005, co-developed (with Richard Walker of Tetra Tech–Lexington KY) and produced the new Technical Specifications Manual for the Kentucky construction site stormwater management program in 2006. Conducted 26 training programs in various cities across the state for construction contractors, inspectors, and local officials.

Guide for Working in Kentucky Stream Channels and Wetlands, Kentucky Division of Water, Statewide, KY. Managed project and wrote 80 percent of the 2011 Guide for Working in Kentucky Stream Channels and Wetlands, which was circulated by the Kentucky Division of Water (KY DOW) to all municipal stormwater programs and agency staff. The guide was developed as a working field manual for crews conducting stabilization, grading, maintenance, utility, or other work along or within stream channels. Sections include practical approaches to the state and federal permitting processes, including the U.S. Army Corps of Engineers (USACE) CWA Section 404 permits, the KY DOW construction site stormwater permits, and the KY DOW CWA Section 401 Water Quality Certifications.



EDUCATION

MA, Communication (Environmental / Health Risk Focus), Morehead State University, 1994

BA, Journalism, University of Georgia, 1977

REGISTRATIONS/ CERTIFICATIONS

Nationally Certified Erosion, Sediment, and Stormwater Inspector, No. 00003886, 2014

Kentucky Erosion Protection and Sediment Control Qualified Inspector, since 2008

AFFILIATIONS:

American Water Works Association
Water Environment Federation

YEARS OF EXPERIENCE

34



TETRA TECH

BARRY TONNING | POLICY ANALYST

Site Inspector Certification Program Development, Kentucky Transportation Cabinet, KY. Provided training materials, slide presentations, instructor services, and consultation for the development of the Kentucky Erosion Protection and Sediment Control inspector qualification program, sponsored by the Kentucky Transportation Cabinet and the University of Kentucky's Technology Transfer Program. Served as one of the first training program instructors, and later developed a separate course covering how to develop a construction site SWPPP, and taught those classes during 2010–2013.

Industrial Facilities Stormwater Inspections and Audits, Kiewit Corporation, Various States, US. Project Lead, Inspector, SWPPP Developer, and Stormwater Compliance Consultant for a four-year program serving a major construction contractor based in Omaha. Inspected industrial facilities and construction sites for stormwater compliance, developed construction site and industrial facility SWPPPs, conducted compliance audits, and provided consultation to the company on cost-effective approaches for improving stormwater permit compliance during 2010–2015.

Hinkston Creek Watershed Assessment and Watershed-Based Plan, Kentucky Division of Water, Mount Sterling KY. Led project to conduct a watershed assessment, develop a watershed-based nonpoint source/point source management plan, and create a unique outreach and education program to improve water quality in this watershed. Authored 26 newspaper articles tying the creek to regional history, developed 5 outreach billboards on key best management practices (BMPs), established comprehensive website, and oversaw production and installation of creek crossing and "entering watershed" signs.

Buck Run Stream Restoration, Kentucky American Water Company, Franklin County KY. Conducted stream assessment, developed conceptual restoration plan, and managed overall project to restore 1,100 ft of Buck Run. Project involved extremely rapid mobilization, design, and construction work due to impending regulatory action resulting from relocation of a major pipeline right-of-way. Worked with USACE and KY DOW to develop immediate response, restoration, revegetation, and other plans and permit compliance and reporting documents. Assisted in on-site construction management, and supervised project to successful completion.

Stony Creek Stream Mitigation, Hinkle Contracting Company, Nicholas and Robertson Counties, KY.

Managed partner group in completing a design/build stream mitigation and stabilization project associated with a highway straightening and widening job in northern Kentucky. The project involved on-site and off-site mitigation, including the planting of approximately 3,500 trees and the establishment of a conservation easement along the stream, including a cattle gate across the stream to restrict livestock access; and the demolition and removal of an old concrete and metal pipe low-water crossing. Worked with team to complete the design work, managed construction, permitting, planting, stream stabilization, and other tasks associated with the project.

Watershed Planning and Management Training—National Training Program, US EPA, Various Locations, US.

Senior Trainer and Resource Person for U.S. EPA's watershed planning and management training program during 2006–2009, conducted as part of the rollout of the U.S. EPA document entitled "Handbook for Developing Watershed Plans to Restore and Protect Our Waters." Assisted in developing the Handbook (listed as a co-author), developed training and other presentation materials, conducted training in California, Kentucky, Arkansas, New York, and Montana.

Low-Impact Development Training Modules, US EPA, Washington, DC.

Developed training and other materials for U.S. EPA training program on low-impact development (LID) during 2005–2006. Researched LID principles, field applications, performance data, and demonstration projects. Created slides and text for workshop presenters, and used the materials personally in presentations related to stormwater management, smart growth, and integrated water resource management.

National Stormwater Training Program, US EPA, Various Cities, US.

Project leader and trainer for a series of U.S. EPA workshops on the Stormwater Phase II program, delivered in Charleston (WV), Philadelphia, Atlanta, Kansas City, Boise, Lexington (KY), Seattle, Nashville, and other US EPA Regional Office locations and Phase I and II cities during 2004–2009. Developed and delivered training materials on construction site runoff controls, inspector training, education/ outreach, and public participation; led sessions at workshops; developed and facilitated group exercises, and assisted in program review.

MOLLY FOREE, JD | POLICY ANALYST

Ms. Foree is the President and owner of Third Rock Consultants. She is a licensed attorney specializing in state and federal environmental law. Her expertise in environmental planning and her extensive knowledge of environmental law makes her participation in projects invaluable for Third Rock's clients. Molly personally manages all LFUCG work orders, negotiating and coordinating all work, reviewing all deliverables, and providing a single point of contact to both Tetra Tech and the City. As such she is primarily responsible for Third Rock's role in ensuring LFUCG's compliance with its MS4 permit and the stormwater provisions in the 2011 EPA Consent Decree.

RELEVANT PROFESSIONAL EXPERIENCE

As President of Third Rock, Molly oversees the day-to-day business of the company. As a Senior Environmental Planner and experience project manager, Molly personally manages Third Rock's largest contracts, including those with Tetra Tech over the last 15 years to provide consulting services to LFUCG. From a technical standpoint, her extensive background in environmental policy makes her oversight of Third Rock's projects invaluable. She has an intimate understanding of the statutes and implementing regulations that drive the NPDES and other programs at both the federal and state level. She is also uniquely qualified to assimilate vast amounts of varied data in a way that translates to both technical and non-technical audiences.

In addition to her role as contract administrator and project manager for all LFUCG work orders, Molly personally manages all work under current Tennessee Department of Transportation, Kentucky Finance and Administration Cabinet, and Kentucky Transportation Cabinet on-call contracts. Work under the ID/IQ contracts consists of water resource permitting, stream/wetland restoration design and functional assessment, and NEPA documentation (baseline surveys, environmental assessments, environmental impact statements, and categorical exclusion documents).

RECENT LFUCG TASK ORDER EXPERIENCE

Molly assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Assist DES/DWQ with developing the content of the Watershed Health Assessments
- Participate in Stormwater Stakeholder Advisory Committee meetings
- Conduct Visual Stream Assessment for East Hickman, including updating the major outfall inventory
- Collect rainfall data in the Wolf Run watershed in support of the Derby Drive Investigation
- DWS and IDDE program QA/QC
- Update the inventory and map of stream restoration projects
- Conduct inspections of the Municipal Waste Facilities
- Conduct annual monitoring of municipal waste facilities (West Hickman and Town Branch WWTP)
- Results QA / Accela Entry - 2nd Quarter 2019 WQ Results
- Results QA / Accela Entry - 3rd Quarter 2019 WQ Results



EDUCATION

JD University of Kentucky College of Law, 1993

BA in English, University of Kentucky, 1990

REGISTRATIONS/ CERTIFICATIONS

Kentucky Bar Association,
No. 84944

AFFILIATIONS:

Kentucky Bar Association
Kentucky Stormwater Association
Kentucky Waterways Alliance
Bluegrass Tomorrow

YEARS OF EXPERIENCE

27



MOLLY FOREE, JD | POLICY ANALYST

- Results QA / Accela Entry - 4th Quarter 2019 WQ Results
- Results QA / Accela Entry - 1st Quarter 2019 WQ Results
- Results QA / Accela Entry - Macro / Habitat Results
- Annual Report
- Monitoring Coordination and Project Management
- East Hickman Water Quality Monitoring - Phase I Field Screening (4 Events)
- West Hickman Water Quality Monitoring - Phase II PCR Loading (10 Events)
- West Hickman Water Quality Monitoring - Technical Memo
- East Hickman Stream Corridor Characterization - Train/Assign BCTC and QA
- West Hickman Stream Corridor Characterization - Technical Memo
- West Hickman Stream Biology (Macroinvertebrates) - Technical Memo
- West Hickman Discharge Prevention Investigation - Technical Memo
- West Hickman Priority Area Upland Assessment - Technical Memo
- West Hickman WFMP Report
- WFMP Coordination and Project Management
- Baughman Fork Delisting - Monthly QA/QC and reporting

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- Environmental Management Systems, KSPE, 2017
- KYTC Project Manager's Boot Camp Xpress, 2017
- Not Your Typical Construction Site Stormwater Management, FHWA, 2016
- Environmental Justice/Ladders of Opportunity, FHWA, 2016
- NEPA and the Transportation Decision Making Process, National Highway Institute, 2000
- Thinking Beyond the Pavement, Context-Sensitive Design, Kentucky Transportation Center, 2000
- Public Involvement in NEPA and the Transportation Decision-Making Process, FHWA, 2000

PRIOR PROFESSIONAL EXPERIENCE

From 1990 through 1993, Molly attended the University of Kentucky College of Law. During the summer of 1992, she clerked for the Lexington firm of Greenbaum Doll & McDonald PLLC in both the environmental and litigation departments. Following graduation, she

accepted an associate position with the firm and went on to practice in the Environmental Department. As an associate in the Environmental Department, she dealt exclusively with water quality, solid and hazardous waste, wastewater, air, and surface mining issues, with an occasional invitation to speak on topics such as Kentucky's underground storage tank program and Petroleum Storage Tank Environmental Assurance Fund.

From 1995 to 2000, Molly served as corporate counsel for Commonwealth Technology, Inc. She was responsible for negotiating corporate contracts and coordinating outside legal counsel. She was also directly responsible for environmental affairs and client advocacy, utilizing her legal and regulatory background to identify and implement innovative and cost-effective strategies, while maintaining a high level of quality and commitment to service.

ABIGAIL RAINS, CFM | POLICY ANALYST

Abby Rains, CFM, is a highly respected environmental professional with a diverse background in laboratory analysis, quality control and quality assurance, wastewater and stormwater permitting, and compliance. Her expertise with federal and state environmental regulations has been demonstrated on a wide variety of compliance inspections, drafting permits and programs managed. She currently serves as a Senior Environmental Planner and Project Manager for Third Rock and is an integral part of Third Rock's Water Quality and Watershed-Focused Monitoring teams.

RELEVANT PROFESSIONAL EXPERIENCE

Prior to joining Third Rock, Abby was the Statewide Municipal Separate Storm Sewer System (MS4) Program Manager for Kentucky's Division of Water. Abby is also a Certified Floodplain Manager with extensive experience in floodplain management and assisting communities with the National Flood Insurance Program compliance.

During her time as the MS4 Program Manager, Abby served as the primary point of contact for 108 MS4 communities across the state. She planned, conducted, and participated in stakeholder meetings for the development of the NPDES general permit for Phase II MS4 communities. She has facilitated negotiations between the Division of Water and the Phase I MS4s while drafting their permit. She has reviewed and commented on the required subsequent Stormwater Quality Management Plans and Quality Assurance Project Plans. In addition to writing permits, Abby met Annual EPA Section 106 grant commitments by performing the inspection of the MS4 programs across the state following up with enforcement documents when necessary.

Abby also served as the Assistant National Flood Insurance Program (NFIP) Coordinator working with over 300 municipalities and counties to ensure compliance with the requirements of the program. By participating in the NFIP communities receive federally-subsidized flood insurance to protect their homes and businesses. The communities in return adopt an ordinance that protects the citizens and oversees a local floodplain management program that includes giving local permits to construction that will occur in the floodplain. Abby assisted communities in the adoption of the ordinance and implementation of the permitting process for the local communities. She has prepared and coordinated NFIP applications and worked with local authorities to document compliance with all program requirements.

RECENT LFUCG TASK ORDER EXPERIENCE

Abby assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Participate in Stormwater Stakeholder Advisory Committee meetings
- DWS and IDDE program QA/QC
- Conduct inspections of the Municipal Waste Facilities
- Results QA / Accela Entry - 2nd Quarter 2019 WQ Results
- Results QA / Accela Entry - 3rd Quarter 2019 WQ Results
- Results QA / Accela Entry - 4th Quarter 2019 WQ Results
- Results QA / Accela Entry - 1st Quarter 2019 WQ Results



EDUCATION

BS in Biology, Lincoln Memorial University, 1991

REGISTRATIONS/ CERTIFICATIONS

KY Erosion Prevention & Sediment Control Roadway Inspector, No. 191100263

Certified Floodplain Manager, No. US-14-076-02

OSHA HAZWOPER 40-Hr

AFFILIATIONS:

Association of State Floodplain Managers

Kentucky Association of Mitigation Managers

Kentucky Stormwater Association

YEARS OF EXPERIENCE

29



ABIGAIL RAINS, CFM | POLICY ANALYST

- Annual Report
- East Hickman Water Quality Monitoring - Phase I Field Screening (4 Events)
- West Hickman Water Quality Monitoring - Phase II PCR Loading (10 Events)
- West Hickman Water Quality Monitoring - Technical Memo
- West Hickman Discharge Prevention Investigation - MST
- West Hickman WFMP Report
- Volunteer Training (2 x during CY5)
- Baughman Fork Delisting - Monthly QA/QC and reporting

evaluations of local industries to ensure management of industrial waste on-site instead of discharging to the wastewater plant. She was also worked in the laboratory at the plant and worked with state regulators.

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- Navigable Waters Protection Rule, US EPA, 2020
- KEPSC for Roadway Inspectors Qualification Course, Kentucky Transportation Center, 2019
- Stormwater Basins and Underground Storage Systems, 2019
- EPA Stormwater Inspector Training, Construction Site Stormwater Management
- EPA Water Quality Standards Academy
- EMI L194 Advanced Floodplain Management Concepts
- EMI L273 Managing Floodplain Development through the National Flood Insurance Program
- OSHA 40-Hr HazWaste Operations Certification

PRIOR PROFESSIONAL EXPERIENCE

Abby's professional career has included a variety of environmental science applications. She worked for the Division of Water as the Pretreatment Coordinator where she completed annual inspections of the 66 municipal pretreatment programs including SPCC (Spill Prevention, Control and Countermeasure) programs at different industries across the state. She made determinations of Categorical/ Non-Categorical Industries and their treatment processes and records. She provided guidance to the municipality's Pretreatment Coordinators and industrial representatives to maintain compliance. From 1996 to 2001 she was employed as a laboratory analyst and manager with local environmental laboratories in Lexington and Frankfort. Beginning in 1992, Abby was a certified wastewater plant operator and the pretreatment coordinator for her hometown wastewater plant. She conducted environmental

BERT REMLEY | ENVIRONMENTAL SCIENTIST

Mr. Remley has worked for Third Rock Consultants since its formation in 2001. During that time, he has specialized in the identification and ecology of terrestrial and aquatic species including mammals, plants, fish, mussels, and invertebrates. More specifically, Bert has led the effort to sample Fayette County streams each year, on a quarterly basis, to ensure compliance with LFUCG's MS4 permit and the stormwater provisions in the 2011 EPA Consent Decree. Bert is currently an integral part of Third Rock's Water Quality and Watershed-Focused Monitoring teams.

RECENT PROFESSIONAL EXPERIENCE

Bert has conducted literally hundreds of aquatic surveys in multiple states for fish, mussels, and invertebrates employing various sampling protocols. He routinely conducts aquatic assessments collecting species and data, including habitat assessments (Rapid Bioassessment Protocol) and field physiochemical measurements such as dissolved oxygen, pH, temperature, and specific conductance.

He has collected hundreds of invertebrate samples from the Southeast and Midwest employing several different sampling protocols including semi-quantitative riffle kick sample (SQKICK). In addition to certification by the Society for Freshwater Science in multiple invertebrate species, Bert has also been certified by the Ohio EPA to collect, identify, and calculate macroinvertebrate community metrics in Ohio; by the North Carolina DOT to collect benthic macroinvertebrates for 401 certification projects in North Carolina; and by the Kentucky Division of Water to collect, identify, and calculate macroinvertebrate community metrics.

As the Quality Control/Quality Assurance Officer for Third Rock's aquatic laboratory, Bert is responsible for calculating macroinvertebrate bioassessment indices, training and assisting taxonomists with their identifications, managing samples within the laboratory, reviewing and reporting data. He is familiar with sorting procedures, including (sub-sample 200 +/- 20% count) and has personally identified over 2,000 samples from 10 different states within the Southeast, Midwest, and Pacific Northwest.

He has conducted aquatic mussel surveys in the Cumberland, Tennessee, Kentucky, and Licking River drainages ranging from simple view bucket and "hand grubbing" in the upper reaches of river systems to working with surface air supplied divers in the lower reaches of primary river systems. He has surveyed streams, rivers, and lakes for fish in Kentucky, Virginia, Tennessee, Ohio, and Illinois employing several different sampling techniques including backpack electroshocking, boat mounted electroshocking, seining, and gill netting. Bert participated in surveying the fish communities of Pools 9 and 10 of the Kentucky River and their respective tributaries and was lead biologist of a fish inventory of Cumberland Gap National Historical Park.

RECENT LFUCG TASK ORDER EXPERIENCE

Bert assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Wet Weather Monitoring - 2nd Quarter 2019
- Dry Weather Monitoring - 3rd Quarter 2019



EDUCATION

MS in Biology, Morehead State University, 1997

BS in Biology, University of Kentucky, 1991

REGISTRATIONS/ CERTIFICATIONS

SFS Taxonomic Certification for Eastern *Ephemeroptera*, *Plecoptera*, *Trichoptera*, Eastern *Chironomidae*, and Eastern General Arthropods

OH EPA Level 3 Qualified Data Collector

NWI Certified Wetland Delineator

PADI Open Water Diver

AFFILIATIONS:

Society of Freshwater Science

Carolina Area Benthologists

Southeast Bat Diversity Network

Midwest Bat Working Group

Northeast Bat Working Group

YEARS OF EXPERIENCE

23



BERT REMLEY | ENVIRONMENTAL SCIENTIST

- Dry Weather Monitoring - 4th Quarter 2019
 - Dry Weather Monitoring - 1st Quarter 2019
 - Macro Sampling - Headwater Sites (CR and NE)
 - Macro Sampling - Wadeable Sites (SE, WH, EH, TB, WR)
 - Results QA / Accela Entry - Macro / Habitat Results
 - Annual Report
 - East Hickman Stream Corridor Characterization - Train/Assign BCTC and QA
 - West Hickman Stream Corridor Characterization (39 Sites Third Rock)
 - West Hickman Stream Corridor Characterization - Technical Memo
 - West Hickman Stream Biology (Macroinvertebrates) (6 Sites, 3HW/3W, 12 Samples)
 - West Hickman Stream Biology (Macroinvertebrates) - Technical Memo
 - Baughman Fork Delisting - Collect grab samples / macro samples / algae data
 - Baughman Fork Delisting - 4 macro samples processing / ID and data analysis
- SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT**
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2020
 - Navigable Waters Protection Rule, US EPA 2020
 - Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2018
 - Stream and BMP Monitoring, Center for Watershed Protection, 2018
 - Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2017
 - Carolina Area Benthological Workshop, 2017
 - Southeastern Bat Diversity Network Meeting, 2017
 - USFWS Big Sandy Crayfish Workshop, 2016
 - USFWS Federally Listed Bat Informational Meeting, 2016
 - Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2016
 - Midwest Bat Working Group Meeting, 2016
 - Bats and Forest Management, KY Wildlife Society, 2016
 - USFWS Briefing on Final 4(d) Rule for the Northern Long-Eared Bat, 2016
 - Pathogens in Urban Stormwater Systems: Understanding and Identifying Sources, ASCE, 2015
 - Pathogens in Urban Stormwater Systems: A Practical Guide for MS4s, ASCE, 2015
 - USFWS Forest-Dwelling Bat Conservation Strategy, 2015
 - Society for Freshwater Science Meeting, 2014
 - Freshwater Mollusk Conservation Society Meeting, 2013
 - Eastern Kentucky Coalfield Macroinvertebrate Collection Methods, Kentucky Division of Water, 2012
 - TN Water Resources Annual Symposium, 2012
 - Ecological Training, Ohio Department of Transportation, Office of Environmental Services, 2011
 - The Mayfly Family Baetidae in the Southeastern US, Carolina Benthological Workshop, 2011
 - River Morphology / Applications, Wildland Hydrology (Rosgen Level II), 2009
 - Wetland Delineator Certification Program, Wetland Training Institute, 2009
 - Kentucky Freshwater Mollusk Meeting, 2008
 - Soil Erosion and Sediment Control, Kentucky Society of Professional Engineers, 2007
 - Applied Fluvial Geomorphology, Pilot View Resource Conservation and Development (Rosgen Level I), 2007
 - Developing a Biological Assessment, US Fish and Wildlife Service, National Conservation Training Center, 2007
 - EcoStream - Stream Ecology and Restoration Conference, NC State University Stream Restoration Program, 2006
 - Advanced Midge Identification, Association of Mid-Atlantic Biologists Workshop, 2006
 - Taxonomy and Identification of Darters, Association of Mid-Atlantic Aquatic Biologists Workshop, 2005
 - Ecological Studies Training, TN Department of Transportation, 2004
 - Biocriteria Certification Training for Macroinvertebrates and Fish, OH EPA, 2003
 - Water Beetle Taxonomy and Identification, John H. Epler, PhD., Instructor, Duke Power Environmental Center, 2002
 - ArcView GIS, ESRI, 2001
 - Oligochaetes Identification, Association of Mid-Atlantic Biologists Workshop, 2001
 - Crayfish Workshop, Carolina Benthological Workshop, 2001
 - Taxonomy and Systematics of the Freshwater Mollusks of North America, North American Benthological Society, 2001
 - Aquatic Entomology, Eastern Kentucky University,

CORY BLOYD | ENVIRONMENTAL SCIENTIST

With 15 years of highly specialized, water quality monitoring experience, Mr. Bloyd is integral to all monitoring plans implemented by Third Rock. He has authored numerous water quality assessment reports and QAPPs, served as team leader for large scale watershed studies, conducted water quality training sessions for volunteers and municipal employees, and collected water samples across Kentucky and Tennessee. Cory currently coordinates and implements water quality monitoring conducted by Third Rock for LFUCG, ensuring compliance with LFUCG's MS4 permit and the stormwater provisions in the 2011 EPA Consent Decree.

RECENT PROFESSIONAL EXPERIENCE

As part of LFUCG's stormwater management team, Cory's responsibilities have included: quarterly wet and dry event water quality monitoring; macroinvertebrate and fish sampling; visual stream assessments, standard operating procedure document development; maintenance of water quality monitoring database; and technical support for LFUCG's dry weather screening and illicit discharge detection programs.

Cory also contributed to the development and implementation of LFUCG's Baughman Fork Project Management Plan to assess and document the streams status regarding WAH designated use for the Kentucky Division of Water. To that end he evaluated the condition of the benthic macroinvertebrate community, stream habitat, and water quality in both Baughman Fork and UT of Baughman Fork.

As a certified erosion prevention and sediment control inspector, Cory is experienced with monitoring construction sites for compliance with storm water permit requirements. His inspection reports are prepared to provide documentation for permitting agencies and guidance for BMP installation and maintenance.

Cory is a certified OSHA Hazardous Material site worker, experienced in all aspects of Phase I and Phase II Environmental Site Assessments, and federally-permitted by the US Fish and Wildlife Service and Kentucky Department of Fish and Wildlife Resources to conduct surveys for federally threatened or endangered aquatic and terrestrial species.

RECENT LFUCG TASK ORDER EXPERIENCE

Cory assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Conduct Visual Stream Assessment for East Hickman, including updating the major outfall inventory
- DWS and IDDE program QA/QC
- Conduct annual monitoring of municipal waste facilities (West Hickman and Town Branch WWTP)
- Dry Weather Monitoring - 2nd Quarter 2019
- Wet Weather Monitoring - 2nd Quarter 2019
- Dry Weather Monitoring - 3rd Quarter 2019
- Wet Weather Monitoring - 3rd Quarter 2019
- Dry Weather Monitoring - 4th Quarter 2019



EDUCATION

BS in Natural Resources
Conservation and Management,
University of Kentucky, 2005

REGISTRATIONS/ CERTIFICATIONS

Licensed Commercial Pesticide
Operator, No. 33339

KY Erosion Prevention & Sediment
Control Roadway Inspector, No.
191100221

TN Erosion Prevention & Sediment
Control Level I No. 132327

OSHA HAZWOPER 24-Hr

NWI Certified Wetland Delineator

AFFILIATIONS:

Southeast Bat Diversity Network

Midwest Bat Working Group

Northeast Bat Working Group

Kentucky Stormwater Association

YEARS OF EXPERIENCE

15



CORY BLOYD | ENVIRONMENTAL SCIENTIST

- Wet Weather Monitoring - 4th Quarter 2019
- Dry Weather Monitoring - 1st Quarter 2019
- Wet Weather Monitoring - 1st Quarter 2019
- Monitoring Coordination and Project Management
- East Hickman Water Quality Discharge Curves (17 Sites) and Technical Memo
- West Hickman Discharge Prevention Investigation - Optical Brighteners (2 Events +)
- West Hickman Discharge Prevention Investigation - MST
- West Hickman Discharge Prevention Investigation - Technical Memo
- Volunteer Training (2 x during CY5)
- Baughman Fork Delisting - Collect grab samples / macro samples / algae data

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- Navigable Waters Protection Rule, US EPA, 2020
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2020
- KEPSC for Roadway Inspectors Requalification Course, Kentucky Transportation Center, 2019
- Construction Management, LFUCG, 2019
- Post-Construction Stormwater Management Workshop, LFUCG, 2019
- Tennessee Bat Working Group Meeting, 2019
- Invasive Species Management Techniques, KY Wildlife Society, 2018
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2018
- Stream and BMP Monitoring, Center for Watershed Protection, 2018
- Post-Construction Stormwater Management Workshop, LFUCG, 2018
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2017
- Vegetation Management Association 37th Annual Meeting, 2017
- TC3 Erosion and Sediment Control, AASHTO, 2017
- KEPSC for Roadway Inspectors Requalification Course, University of Kentucky, 2016
- USFWS Federally Listed Bat Informational Meeting, 2016
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2016
- Bats and Forest Management, KY Wildlife Society, 2016

- USFWS Briefing on Final 4(d) Rule for the Northern Long-Eared Bat, 2016
- Tennessee Bat Working Group Meeting, 2016
- Pathogens in Urban Stormwater Systems: Understanding and Identifying Sources, ASCE, 2015
- TDEC Level I Fundamentals of Erosion Prevention and Sediment Control for Construction Sites, 2015
- Aquatic Plant and Algae Control Training, Kentucky State University, 2015
- Tree Care Training, University of Kentucky Cooperative Extension Office / Jarvis Tree Service, 2015
- Commercial Pesticide Applicator Training, Morehead State University, 2014
- Tennessee Bat Working Group Meeting, 2014
- Kentucky Bat Working Group Meeting, 2014
- KEPSC for Roadway Inspectors Requalification Course, Kentucky Transportation Center, 2013
- Eastern Kentucky Coalfield Macroinvertebrate Collection Methods, Kentucky Division of Water, 2012
- Freshwater Mollusk Conservation Society Annual Meeting, 2011
- USACE Regional Supplemental Seminar, Wetland Training Institute, 2010
- Kentucky Freshwater Mollusk Annual Meeting, 2010
- KEPSC for Roadway Inspectors Requalification Course, Kentucky Transportation Center, 2010
- Wetland Delineator Certification Program, Wetland Training Institute, 2009
- Trail Master Trails Training Course, Michael T Riter, Instructor, 2008
- University of Kentucky, Turner School of Construction Management, 2008
- FWS-FIS2C01 Principles and Techniques of Electrofishing, US Fish and Wildlife Service, 2008
- KEPSC for Roadway Inspectors Qualification Course, Kentucky Transportation Center, 2008
- Anabat Training, USFWS, 2007
- Modeling of Mobile Source Air Quality Impacts, University of Central Florida, 2007
- OSHA 24-Hr HazWaste Operations Certification, 2006
- Stream System Analysis, University of Kentucky, 2005

GERRY FISTER, PG | ENVIRONMENTAL PLANNER

Mr. Fister is a professional geologist and Environmental Planner with extensive experience in the areas of geological science (karst groundwater considerations), RCRA programs and permitting, and stormwater management. During his 19 years with Third Rock, Gerry has focused his career on water quality and UST/hazardous materials consulting, working extensively with local, state, and federal agencies in multiple states. Gerry plays an integral part in Third Rock's work for LFUCG, directing and providing municipal and industrial monitoring and inspection required by LFUCG's MS4 permit.

RECENT PROFESSIONAL EXPERIENCE

Gerry has a broad background in the application of environmental science to meet client needs and has a detailed and comprehensive understanding of state and federal environmental regulatory programs and state-of-the-art technology applications. Gerry has managed a wide range of project types, including statewide environmental contracts for the Kentucky Transportation Cabinet, Tennessee Department of Transportation and the Kentucky Finance and Administration Cabinet. Gerry has also directed projects for the Kentucky Division of Water related to the development of Total Maximum Daily Load (TMDL) criteria for individual watersheds in Kentucky and feasibility studies for implementing various projects to improve water quality.

Gerry has over 30 years of experience in data-gathering techniques, federal and state environmental regulatory programs, site mapping techniques, surface geology elements and technical writing (NEPA documents). He has served as principle investigator for hundreds of site development projects throughout Kentucky, Tennessee, and Ohio, inspecting sites for the presence of environmental hazards, including underground storage tanks and hazardous materials. He recently led Third Rock's team to provide baseline and post-construction analysis of potential environmental impacts associated with several major infrastructure projects including construction of a 20-million-gallon sewage storage tank in Lexington, KY and two, 10-million-gallon storage tanks in Louisville, KY. These projects are in urban settings and require careful consideration of legacy contamination from over 200 years of continuous use.

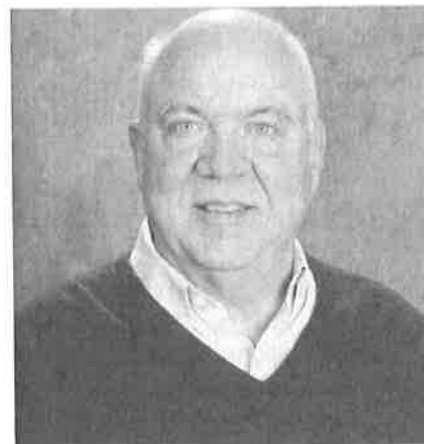
RECENT LFUCG TASK ORDER EXPERIENCE

Gerry assisted Tetra Tech with the following CY5 tasks for LFUCG:

- Conduct inspections of the Municipal Waste Facilities
- West Hickman Priority Area Upland Assessment - PGI
- Monitor Impaired Waters - Wet Weather 3rd / 4th Quarter 2019, 1st Quarter 2020

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- CoP Environment Justice Analysis, AASTHO Center for Environmental Excellence, 2017
- Endangered Species Act Update, FHWA, 2017



EDUCATION

BS in Geology, University of Kentucky, 1987

REGISTRATIONS/ CERTIFICATIONS

Professional Geologist:
Kentucky, No. 113550

OSHA Hazwoper 40-Hr

AFFILIATIONS:

American Institute of Professional Geologists

Kentucky Stormwater Association

YEARS OF EXPERIENCE

33



GERRY FISTER, PG | ENVIRONMENTAL PLANNER

- Electrical Resistivity Imaging: A Geotechnical Tool, KSPE, 2017
- KYTC Project Manager's Boot Camp Xpress, 2017
- Contractor's View of Excess Fill Site Selection, FHWA, 2016
- EJSCREEN: EPA's New EJ Screening Tool Training, US EPA, 2015
- Pathogens in Urban Stormwater Systems: Understanding and Identifying Sources, ASCE, 2015
- Implementing Quality Environmental Documentation: Developing a Quality EIS Summary, FHWA, 2015
- Stormwater and TMDLs, Workshop for Kentucky Permittees, US EPA / KY Division of Water, 2011
- Effective Communications in a Public Involvement Campaign, FHWA, 2009
- Watershed-Based Planning Workshop, Kentucky Waterways Alliance, 2006
- Section 106: Principles and Practice, SRI Foundation, 2006
- Geohazards in Transportation in the Appalachian Region, Kentucky Geological Survey, 2006
- Sinkholes and the Engineering and Environmental Impacts of Karst, National Ground Water Association, 2003

PRIOR PROFESSIONAL EXPERIENCE

From 1988 through 2000, Gerry was a project manager for Commonwealth Technology, Inc. (later purchased by Tetra Tech, Inc.). His responsibilities included managing a variety of projects requiring a detailed understanding of regulatory environmental programs under the Clean Water Act, Resource Conservation and Recovery Act, National Environmental Policy Act, Comprehensive Environmental Response Compensation and Liability Act, Toxic Substance Control Act, and state and local regulatory programs. In this capacity, he designed and directed more than 300 site investigations involving the sampling and characterization of all environmental media and directed client services for a number of Kentucky state agencies including the Kentucky Transportation Cabinet and the Finance and Administration Cabinet.

CHELSEY OLSON | ENVIRONMENTAL SCIENTIST

Mr. Olson has worked for Third Rock Consultants since 2005. His specialties include the identification and ecology of aquatic species including fish, mussels, and invertebrates; the planning and implementation of watershed-scale water quality monitoring plans; and GIS analysis. Chelsey is currently an integral part of Third Rock's Water Quality and Watershed-Focused Monitoring teams.

RECENT PROFESSIONAL EXPERIENCE

Chelsey has years of experience in the area of watershed planning, water quality monitoring, and best management practices location. While there is no substitute for on-the-ground watershed evaluation, Chelsey's expertise in the area of GIS analysis provides the framework for Third Rock's multi-disciplinary team to identify and prioritize unique management strategies involved with watershed planning and monitoring. He utilizes GIS analysis to organize and interpret all available data and monitoring results in order to effectively target and prioritize locations for environmental projects and management practices that will be beneficial for specific watersheds.

Specifically, his expertise in GIS analysis and mapping is essential to Third Rock's watershed-focused monitoring for LFUCG. His combined experience in GIS analysis, statistical analysis, and data management is invaluable when evaluating causes of watershed impairment, assessing potential sources of pollution, linking pollutant loading to suspected land uses, and identifying environmentally sensitive areas. Chelsey is primarily responsible for the generation and management of all Third Rock-generated LFUCG GIS data (shapefiles) which can be as simple as the location on a topographic background or a projecting regulated sites from environmental agency databases.

Chelsey also specializes in the collection and identification of mussels and aquatic macroinvertebrates. He is one of two Third Rock ecologists certified by the Society for Freshwater Science to identify eastern midges (*Chironomidae*), mayflies (*Ephemeroptera*), stoneflies (*Plecoptera*), and caddisflies (*Trichoptera*) to genus level. He routinely identifies aquatic members of the phyla Arthropoda, Mollusca, and Annelida to genus/species and has processed hundreds of LFUCG samples over the last 15 years. He has conducted surveys throughout the Mississippi River Basin including the states of Kentucky, Tennessee, Illinois, and Alabama. Chelsey has surveyed a variety of water bodies ranging from small headwater streams using view buckets and snorkels to the mouths of rivers such as the Licking, Green, Tennessee and Cumberland. Depending upon the size of the project area and data desired, he uses a variety of quantitative (transect lines and circular center points) and qualitative (free-lance habitat searches) methods.

His mussel survey experience ranges from simple view bucket and "hand grubbing" in the upper reaches of river systems to working with surface air supplied divers in the lower reaches of primary river systems. Chelsey has implemented a variety of survey techniques from qualitative presence



EDUCATION

MS in Biology, Eastern Kentucky University, 2006

BA in Biology, Transylvania University, 2001

REGISTRATIONS/ CERTIFICATIONS

SFS Taxonomic Certification for Eastern *Ephemeroptera*, *Plecoptera*, *Trichoptera* and Eastern *Chironomidae*

NWI Certified Wetland Delineator

AFFILIATIONS:

Society of Freshwater Science

Freshwater Mollusk Conservation Society

YEARS OF EXPERIENCE

19



CHELSEY OLSON | ENVIRONMENTAL SCIENTIST

/ absence, timed searches, semi-quantitative transect searches, quantitative quadrat surveys, quantitative bucket and sieve searches (targeting juvenile mussels), and mussel salvage and relocation surveys implementing a moving transect line. As a result, he has extensive experience handling and identifying federally listed species, including fanshell (*Cyprogenia stegaria*), sheepnose (*Plethobasus cyphus*), rabbitsfoot (*Quadrula cylindrical*), fat pocketbook (*Potamilus capax*), rough pigtoe (*Pleurobema plenum*), and pink mucket (*Lampsilis abrupta*) and maintains an expansive collection of relic specimens including more than 100 species.

SPECIALIZED TRAINING/PROFESSIONAL DEVELOPMENT

- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2020
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2018
- Stream and BMP Monitoring, Center for Watershed Protection, 2018
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2017
- USFWS Big Sandy Crayfish Workshop, 2016
- USFWS Federally Listed Bat Informational Meeting, 2016
- Macro / Water Quality Collection and Habitat Assessment, Kentucky Division of Water, 2016
- Bats and Forest Management, KY Wildlife Society, 2016
- Southeastern Bat Diversity Network Meeting, 2016
- USFWS Briefing on Final 4(d) Rule for the Northern Long-Eared Bat, 2016
- Freshwater Mollusk Conservation Society Annual Meeting, 2013
- Kentucky Freshwater Mollusk Meeting, 2011
- Society for Freshwater Science Annual Meeting, 2009
- EcoStream - Stream Ecology and Restoration Conference, NC State University Stream Restoration Program, 2006
- Voodoo Hydrology - Pitfalls of Urban Hydrology Methods and What You Need to Know, Forester University, 2014
- Integrated Stormwater and Wastewater Framework Workshop, EPA, 2012
- Eastern Kentucky Coalfield Macroinvertebrate Collection Methods, Kentucky Division of Water, 2012
- River Morphology / Applications, Wildland Hydrology (Rosgen Level II), 2009
- Developing a Biological Assessment, USFWS, National Conservation Training Center, 2007
- Applied Fluvial Geomorphology, Pilot View Resource Conservation and Development (Rosgen Level I), 2007
- Soil Erosion and Sediment Control, Kentucky Society of Professional Engineers, 2007
- Advanced Midge Identification, Association of Mid-Atlantic Aquatic Biologists Workshop, 2006
- Floodplains, Riparian Zones, and Buffer Strips: Key Components to Aquatic Life use Attainment and Self-Sustaining Stream Systems, Soil and Water Conservation Society, 2006
- Watershed-Based Planning Workshop, Kentucky Waterways Alliance, 2006
- Taxonomy and Identification of Darters, Association of Mid-Atlantic Aquatic Biologists Workshop, 2005
- Ecological Training, Ohio Department of Transportation, 2005
- Crayfish Identification, Eastern Kentucky University, 2004
- Freshwater Mussel Identification, Eastern Kentucky University, 2004
- Warbler Identification, Concord College, 2003
- Asteraceae Identification, Ron Jones, Instructor, Eastern Kentucky University, 2002
- Grasses, Sedges, and Rushes Identification, Ron Jones, Instructor, Third Rock Continuing Education, 2002

PRIOR PROFESSIONAL EXPERIENCE

After earning his Bachelor's degree, Chelsey continued his education in the post-baccalaureate program at the University of Kentucky, where he gained further experience in GIS, hydrogeology, and population and community ecology. At the University of Kentucky, Chelsey served as a research Assistant for a study on the addition of a detrital mixture to squash and cucumber fields in an attempt to increase lycosid numbers and therefore increase the natural predation on cucumber and squash beetles.

APPENDIX

Forms

Supplier Information

Company Name: Tetra Tech, Inc.

Contact Name: Richard Walker, PE

Address: 424 Lewis Hargett Circle, Suite 110

Lexington, KY 40503

Phone: 859.619.8013

Fax: 859.224.1025

Email: Richard.Walker@tetrattech.com

Supplier Notes

ONLY ONLINE BIDS WILL BE ACCEPTED!

By submitting your response, you certify that you are authorized to represent and bind your company and that you agree to all bid terms and conditions as stated in the attached bid/RFP/RFQ/Quote/Auction documents.

Richard Walker, PE

Print Name

Richard W. Walker

Signature

AFFIDAVIT

Comes the Affiant, Richard Walker, PE, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Richard Walker, PE and he/she is the individual submitting the proposal or is the authorized representative of Tetra Tech, Inc., the entity submitting the proposal (hereinafter referred to as "Proposer").
2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Proposer has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Proposer has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Proposer will not violate any provision of the campaign finance laws of the Commonwealth.
6. Proposer has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."

Continued on next page

7. Proposer acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught.

Richard W. Walker

STATE OF Kentucky

COUNTY OF Fayette

The foregoing instrument was subscribed, sworn to and acknowledged before me

by Richard Walker on this the 6th day
of April, 2020.

My Commission expires: May 6, 2021

Margaret Warner
NOTARY PUBLIC, STATE AT LARGE

EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Proposers

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped and aged persons.

Richard W. Walker
Signature

Tetra Tech, Inc.
Name of Business

WORKFORCE ANALYSIS FORM

Name of Organization: Tetra Tech, Inc.

GRAND TOTAL	ALL LOCATIONS	Total Employees		Minority		M		F		Male				Female			
		Male	Female			H		H		W	B	NHPI	A	NA			
	Exec/Sr Officials and Managers	257	36	25	5	5		2		236	4	0	12	0	0	0	2
	First/Mid Officials and Managers	838	363	236	45	45		22		693	32	2	43	4	19	0	0
	Professionals	4882	1750	1147	207	207		131		2249	129	6	217	10	94	2	26
	Technicians	886	168	343	140	140		29		580	55	5	48	8	30	112	7
	Sales Workers	0	0	0	0	0		0		0	0	0	0	0	0	0	0
	Administrative Support Workers	497	410	223	21	63		0		45	15	1	6	0	1	231	16
	Craft Workers	80	78	27	8	8		0		51	7	0	9	1	2	0	0
	Operatives	239	15	151	71	71		2		103	23	1	37	5	4	0	1
	Laborers and Helpers	54	2	15	5	5		0		37	8	0	0	1	1	0	0
	Service Workers	404	164	212	22	22		23		120	63	2	10	1	22	72	9
	Other	88	27	8	3	3		0		54	1	0	1	1	1	26	0
	TOTAL	8933	2956	2387	527	527		272		4166	337	17	383	31	174	2040	264
	PERCENTAGE	65.6%	34.4%	27.8%	6.1%	3.2%		48.5%		3.9%	0.2%	0.4%	4.5%	0.1%	2.0%	23.7%	3.1%
																	1.2%

Prepared by: Kristen Lui, Corporate Human Resources Date: 03 / 30 / 2020

(Name and Title)

Revised 2015-Dec-15

**DIRECTOR, DIVISION OF CENTRAL PURCHASING
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 EAST MAIN STREET
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT
OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs. The Lexington Fayette Urban County Government also has set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-owned Small Businesses. The goal for the utilization of Disadvantaged Business Enterprises as well Veteran -owned Small Businesses as subcontractors is a recommended goal. Contractor(s) who fail to meet such goal will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goal will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

Sherita Miller, MPA, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

Firm Submitting Proposal: Tetra Tech, Inc.

Complete Address: 424 Lewis Hargett Circle, Suite 110, Lexington, KY 40503
Street City Zip

Contact Name: Richard Walker, PE Title: Vice President

Telephone Number: 859.619.8013 Fax Number: 859.224.1025

Email address: Richard.Walker@tetrattech.com



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 8-2020

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to Central Purchasing for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWDBE Company, Name, Address, Phone, Email	MBE WBE or DBE	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1. Third Rock Consultants 2526 Regency Road, Suite 180 Lexington, KY 40503 859.977.2000 mforee@thirdrockconsultants.com	WBE	Water Quality Monitoring and Analyses, Visual Stream Assessments	To Be Determined After Refinement of the Scope of Work	40% (estimated)
2. Salt River Engineering 108 West Poplar Street Harrodsburg, KY 40330 859.734.2334 connie@saltrivereng.com	Veteran Owned	Technical Support	To Be Determined After Refinement of the Scope of Work	3% (estimated)
3.				
4.				

The undersigned company representative submits the above list of MWDBE firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Tetra Tech, Inc.

Company

04/09/2020

Date

Richard Walker, PE

Company Representative

Vice President

Title



LFUCG MWDBE SUBSTITUTION FORM
Bid/RFP/Quote Reference # 8-2020

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to Central Purchasing for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project.

SUBSTITUTED MWDBE Company Name, Address, Phone, Email	MWDBE Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1. N/A					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Tetra Tech, Inc.
Company

04/09/2020
Date

Richard Walker, PE *Richard W. Walker*
Company Representative

Vice President
Title



MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # 8-2020

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran
N/A								

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

The undersigned acknowledges that all information is accurate. Any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Tetra Tech, Inc.
Company

04/09/2020
Date

Richard Walker, PE *Richard W. Walker*
Company Representative

Vice President
Title



LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # 8-2020

Total Contract Amount Awarded to Prime Contractor for this Project _____

Project Name/ Contract #	Work Period/ From: _____ To: _____
Company Name:	Address:
Federal Tax ID:	Contact Person:

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date
N/A							

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Tetra Tech, Inc.

Company

04/09/2020

Date

Richard Walker, PE *Richard W. Walker*

Company Representative

Vice President

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # 8-2020

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWBDE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

☒ Provided the interested MWBDE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items

into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

_____ Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

☒ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation. Reviewed the list of MWDBE and Veteran subcontractors to identify firms that have experience with the RFP Scope of Services.

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Tetra Tech, Inc.

Company
04/09/2020

Date

Richard Walker, PE

Richard W. Walker
Company Representative
Vice President

Title

GENERAL PROVISIONS

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, 29 U.S.C. 650 *et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
8. Bribery Clause: By his/her signature on the proposer, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Proposal Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.

A. Termination for Cause

- (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
- (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
- (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
 - (a) Failure to perform the contract according to its terms, conditions and specifications;
 - (b) Failure to make delivery within the time specified or according

- to a delivery schedule fixed by the contract;
- (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
- (d) Failure to diligently advance the work under a contract for construction services;
- (e) The filing of a bankruptcy petition by or against the contractor; or
- (f) Actions that endanger the health, safety or welfare of the LFUCG or its citizens.

B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. **Assignment of Contract:** The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. **No Waiver:** No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. **Authority to do Business:** The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must

be signed by a duly authorized officer, agent or employee of the Respondent.

16. **Governing Law:** This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
17. **Ability to Meet Obligations:** Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
18. Proposer understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Proposer is an independent contractor at all times during the performance of the services specified.
19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.
20. Proposer [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Proposer agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

Richard W. Walker

Signature

04/09/2020

Date

PRIVILEGED AND CONFIDENTIAL

**AFFIRMATIVE ACTION PROGRAM
FOR
WOMEN & MINORITIES**

Tetra Tech, Inc



AFFIRMATIVE ACTION PROGRAM FOR WOMEN & MINORITIES

Contractor: Tetra Tech, Inc.

EEO Manager: Janet Brunner

PRIVILEGED AND CONFIDENTIAL

CONFIDENTIAL TRADE SECRET MATERIALS

(Not for distribution except on a need-to-know basis.)

This affirmative action program contains confidential information that is subject to the provision of 18 U.S.C. 1905, *Chrysler Corp. v. Brown*, 441 U.S. 281, 19 FEP 475 (1979). Furthermore, release of any trade secret, confidential statistical or commercial information is considered arbitrary and capricious and is in violation of the Administrative Procedure Act. See *CNA Financial Corp. v. Donovan* 830 F.2nd 1132, 1144 and n. 73 (D.C. Cir.) certiorari denied, 485 U.S. 977 (1988). Copies of this affirmative action program and all related appendices, documents, and support data are made available on loan to the U.S. Government upon the request of said Government on the condition that the Government holds them totally confidential and does not release copies to any persons whatsoever. This affirmative action program and its appendices and other supporting documents contain much confidential information that may reveal, directly or indirectly, plans for business or geographical expansion or contraction. Pursuant to the Freedom of Information Act, this affirmative action program is exempt from disclosure, reproduction and distribution upon the grounds, among others, that such material constitutes 1) personnel files, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, and that are exempt from disclosure under 5 U.S.C. 552(b) (6); 2) confidential, commercial or financial information, which is exempt from disclosure under 5 U.S.C. 552(b) (4); 3) investigatory records compiled for law enforcement purposes, the production of which would constitute an unwarranted invasion of personal privacy, and that are exempt from disclosure under 5 U.S.C. 552(b) (7) (C); and 4) matters specifically exempted from disclosure by statute, which are exempt from disclosure under 5 U.S.C. 552(b) (3). Notice is hereby given of a request that this Program be kept confidential.

Tetra Tech, Inc wishes to make it clear that it does not consent to the release of any information whatsoever contained in this affirmative action program under the Freedom of Information Act or otherwise. If the U.S. Government, or any agency or subdivision thereof, is considering breaching the conditions under which this affirmative action program was loaned to such government, or is considering a request of this Program under the Freedom of Information Act, request is hereby made that the Government immediately notify Tetra Tech, Inc and its counsel of any and all Freedom of Information Act requests by the government or any other contemplated release of this Program by the Government that relates to information obtained by the Government. Tetra Tech, Inc further requests that everyone who has any contact with this affirmative action program and its supporting appendices, documents and other data treats such information as totally confidential and that such information not be released to any person whatsoever. Retention or disclosure of information relating to identifiable individuals may also violate the Privacy Act of 1974.

INTRODUCTION

Tetra Tech, Inc develops an annual affirmative action program as one of several tools to implement the affirmative action policies effectively. The form, language and analysis of the program necessarily complies with the requirements of 41 CFR 60-2, et seq. (affirmative action programs) and other regulations established pursuant to the provisions of Executive Order 11246 and all other civil rights related laws and regulations that have or may be enacted, as amended. Accordingly, terminology such as "problem areas" and "utilization analysis" appearing in this affirmative action program is that which the organization is required to use by these regulations. The criteria used in relation to these terms are those specified by the Government. These terms have no independent legal or factual significance whatsoever. Although Tetra Tech, Inc uses this terminology and methodology in connection with this affirmative action program and the affirmative action policies, such usage does not necessarily signify that the organization agrees that these terms properly apply to any particular factual situation.

Information regarding identifiable individuals is private and confidentially maintained. Everyone who has official access to confidential data will exercise every precaution to protect this information.

PRIVILEGED AND CONFIDENTIAL

DESIGNATION OF RESPONSIBILITY

41 CFR Section 60-2.17(a), 60-2.10(b)(2)(i)

Dan Batrack, CEO, has overall responsibility for implementation of the Equal Employment Opportunity Policy. Janet Brunner, Equal Employment Opportunity Manager, assumes the responsibility for the development, implementation and monitoring of the affirmative action program, which includes all those positions located in subordinate and/or lower-level establishments for which the selection decisions are made at the corporate level.

Responsibility for the implementation and monitoring of the affirmative action program rests with the EEO Manager, whose responsibilities include but are not limited to the following:

1. Developing policy statements and affirmative action programs.
2. Developing internal and external communication procedures when appropriate.
3. Developing an internal audit and reporting system that:
 - a. Identifies areas that require remedial action, and develops programs to correct those problem areas.
 - b. Determines the degree to which the goals and objectives are reached.
4. Monitoring the following internal practices:
 - a. Proper display of EEO posters and policies.
 - b. Full participation of minority, female, and disabled employees in all Tetra Tech, Inc sponsored educational, training, recreational, and social activities.
5. Assisting management in solving any identified problems. It is the responsibility of department heads, managers, and supervisors to provide the EEO Manager with such information and/or statistical data as is necessary to measure progress toward the attainment of goals and to assure good faith efforts to implement the affirmative action program. Such information and/or statistical data are used to set reasonable placement goals.
6. Keeping management informed of the latest developments in the equal employment opportunity area.
7. Assisting employees in solving problems and resolving EEO complaints.
8. Serving as a liaison between Tetra Tech, Inc and appropriate women and minority groups.
9. Serving as a liaison between Tetra Tech, Inc and appropriate EEO enforcement agencies.

IDENTIFICATION OF PROBLEM AREAS

41 CFR Section 60-2.17(b)

As part of the monitoring practice, an analysis of personnel matters is conducted. The following items are considered:

1. Composition of the workforce by minority group and sex. Good faith placement goals are established where necessary.
2. Composition of applicant flow by minority group and sex. Corrective action is taken when appropriate whenever the referral ratio of women and minorities indicates a significantly higher percentage is being rejected as compared to non-minority and male applicants.
3. Compensation system. Tetra Tech, Inc evaluates its compensation system to determine whether there are gender, race or ethnicity-based disparities. The purpose of the analysis is to identify potential areas where impediments to equal employment opportunity may exist. Disparities alone do not necessarily indicate a problem area; there may be many non-discriminatory reasons for a disparity.
4. Selection process. The selection process includes: position descriptions, titles, application forms, pre-employment forms, interview procedures, test validity and administration, referral procedures, final selection process and similar factors. The application and related pre-employment forms are in compliance with federal guidelines, and position descriptions accurately reflect actual duties and responsibilities.

The following areas are reviewed annually to ensure the success of this affirmative action program:

- Transfer and promotion practices,
- Facility and Tetra Tech, Inc sponsored recreational, social and educational events,
- EEO posters,
- Policy statements,
- Training Programs, and
- Suitable housing and transportation does not inhibit recruitment efforts and employment of minorities.

ORGANIZATIONAL PROFILE

41 CFR Section 60-2.11

Organizational Display

The Organizational Display is a detailed presentation of the Tetra Tech, Inc. organizational structure. It identifies each organizational unit and shows the relationship to other organizational units.

An organizational unit is any component part of the Tetra Tech, Inc. corporate structure. It might be a department, division, section, branch, group, project team, job family, or similar component. This includes an umbrella unit (such as a department) that contains a number of subordinate units, and it separately includes each of the subordinate units (such as sections or branches).

For each organizational unit, the organizational display includes the following:

1. The name of the unit;
2. The job title, gender, race, and ethnicity of the unit supervisor(s) (if the unit has a supervisor);
3. The total number of male and female incumbents; and
4. The total number of male and female incumbents in each of the separate minority groups.

The total number of incumbents in each minority classification is given for each job title. All job titles, including all managerial job titles, are listed.

WORKFORCE BY JOB GROUP
41 CFR Sections 60-2.12, 60-2.17(b)(1)

The Job Group Analysis groups jobs with similar content, wage rates, and opportunities into job groups. This analysis includes a list of the job titles that constitute each job group.

PRIVILEGED AND CONFIDENTIAL

PLACEMENT OF INCUMBENTS IN JOB GROUPS

41 CFR Section 60-2.13

Tetra Tech, Inc states separately the percentage of minorities and the percentage of women it employs in each job group established pursuant to Sec. 60-2.12.

PRIVILEGED AND CONFIDENTIAL

WORKFORCE BY JOB GROUP - ANNOTATIONS

41 CFR Section 60-2.1e

Tetra Tech, Inc. prepares a separate Job Group Annotations report, which lists employees who are included in an affirmative action program for an establishment other than the one in which the employees are located, and identifies the actual location of such employees.

PRIVILEGED AND CONFIDENTIAL

EVALUATION OF PERSONNEL ACTIVITY
41 CFR Section 60-2.17(b)(2)

Tetra Tech, Inc. evaluates personnel activity to determine whether there are selection disparities.

PRIVILEGED AND CONFIDENTIAL

DETERMINING AVAILABILITY

41 CFR Section 60-2.14

Availability is an estimate of the number of qualified minorities or women available for employment in a given job group, expressed as a percentage of all qualified persons available for employment in the job group. The purpose of the availability determination is to establish a benchmark against which the demographic composition of the incumbent workforce can be compared in order to determine whether barriers to equal employment opportunity may exist within particular job groups.

Tetra Tech, Inc. separately determines the availability of women and minorities for each job group. To determine availability, Tetra Tech, Inc. considers the following factors:

1. The percentage of minorities or women with requisite skills in the reasonable recruitment area. The reasonable recruitment area is defined as the geographical area from which the contractor usually seeks or reasonably could seek workers to fill the positions in question. 41 C.F.R. 60-2.14(c)(1).

Factor 1a considers the percent of women and minorities with requisite skills in a local recruitment area. The most current U.S. Census data is used to derive the availability of women and minorities. If this factor is used, it is because Tetra Tech, Inc. recruits, and many of its applicants live within the local recruitment area, or because we plan on recruiting in this region in the future. Any recruitment practices unique to a job group are noted on the Availability Analysis.

2. The percentage of minorities or women among those promotable, transferable, and trainable within the contractor's organization. Trainable refers to those employees within the contractor's organization who could, with appropriate training that the contractor is reasonably able to provide, become promotable or transferable during the AAP year. 41 C.F.R. 60-2.14(c)(2).

Factor 2a considers the percentage of women and minorities promotable and transferable within the contractor's organization. If this factor is chosen, it is because we fill positions by recruiting from within the workforce either through promotions or transfers. Internal applicants normally apply for these positions. Any recruitment practices unique to a job group are noted on the Availability Analysis.

PLACEMENT GOALS - COMPARING INCUMBENCY TO AVAILABILITY

41 CFR Section 60-2.15

Tetra Tech, Inc compares the percentage of women and minorities in each job group determined pursuant to Sec. 60-2.13 with the availability for those job groups determined pursuant to Sec. 60-2.14. When the percentage of minorities or women employed in a particular job group is less than would reasonably be expected given their availability percentage in that particular job group, a placement goal is established in accordance with Sec. 60-2.16.

PRIVILEGED AND CONFIDENTIAL

PLACEMENT GOALS

41 CFR Section 60-2.16

Placement goals serve as objectives or targets reasonably attainable by means of applying every good faith effort to make all aspects of the entire affirmative action program work. Placement goals are also used to measure progress toward achieving equal employment opportunity.

The establishment of a goal under Sec. 60-2.15 is neither a finding nor an admission of discrimination.

Where, pursuant to Sec. 60-2.15, a placement goal for a particular job group is established, a percentage goal is equal to the availability figure derived for women or minorities, as appropriate, for that job group.

In establishing placement goals, the following principles from Sec 60-2.16(e) also apply:

1. Placement goals are neither rigid or inflexible quotas, nor are they considered to be either a ceiling or a floor for the employment of particular groups.
2. All employment decisions are made in a nondiscriminatory manner. Placement goals are not used to extend a preference to any individual, select an individual, or adversely affect an individual's employment status on the basis of that person's race, color, religion, sex, sexual orientation, gender identity, or national origin.
3. Placement goals do not create set-asides for specific groups, nor are they intended to achieve proportional representation or equal results.
4. Placement goals are not used to supersede merit selection principles.

ACTION ORIENTED PROGRAMS

41 CFR Section 60-2.17(c)

Tetra Tech, Inc develops these action-oriented programs to correct any problem areas identified in the Identification of Problem Areas 41 C.F.R. Section 60-2.17(b) and to attain established goals and objectives.

THE SELECTION PROCESS

1. At least annually, a detailed analysis of position descriptions is conducted to ensure that they accurately reflect position functions.
2. Job requirements are validated by division, department, location or other appropriate organizational units. Special attention is given to academic, experience, physical, and skill requirements to ensure that the requirements themselves do not constitute inadvertent discrimination. Job specifications are free from bias in regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disabled or veteran status, except where there is a bona fide occupational qualification. Job requirements are validated when the number of individuals from a particular race or gender group is disproportionately selected as determined by Impact Ratio studies.
3. Position descriptions and specifications are distributed to recruiting sources and members of management involved in the recruiting, screening, selection, and promotion processes.
4. Selection processes are evaluated at least annually to ensure that they are nondiscriminatory.
5. Individuals who have a role in the selection process are chosen with special care given to their qualifications for such roles and are provided any necessary ongoing training to ensure that the selection processes remain nondiscriminatory.

RECRUITMENT

Any one or all of the following techniques are used to improve recruitment and increase the flow of minority or female applicants:

1. Linkage with recruiting sources, which may include briefing sessions, plant tours, presentations by minority and female employees, and full descriptions of appropriate job openings and the selection process;
2. Encouragement of minority and female employees to refer qualified applicants;
3. Inclusion of women and minorities on the personnel staff;
4. Minority and female participation in career days, youth motivation programs and other similar programs in the community;
5. Minority and female participation in "job fairs;"
6. Active recruiting at various training institutions, especially those that have high minority and female enrollments; and
7. Expansion of help-wanted advertising to include the minority news media and women's interest media.

PROMOTIONS

Any one or all of the following techniques are used to improve promotional opportunities for minority and female employees:

1. Posting or general announcement of all appropriate job openings;
2. Assessment of current female and minority employees' academic, skill and experience levels;
3. Provision of job training and work-study programs;
4. Completion of performance appraisals;
5. Validation of job specifications;
6. Justification by supervisors when apparently qualified minority or female employees are passed over;
7. Establishment of career counseling programs, which may include attitude development, education aid, job rotations, buddy systems and similar programs;
8. Ongoing review of seniority practices in clauses and contracts to ensure that they are nondiscriminatory; and
9. Review of all company-sponsored recreational and social activities to ensure that they are desegregated.

PRIVILEGED AND CONFIDENTIAL

INTERNAL AUDIT AND REPORTING SYSTEMS

41 CFR Section 60-2.17(d)

Monitoring and reporting procedures are developed to evaluate the extent to which the goals of the affirmative action program are being met. Tetra Tech, Inc takes the following measures:

1. Information on race and sex is obtained when an application for a position is submitted.
2. An Adverse Impact (Impact Ratio) Analysis is performed when sufficient data exists on applicants, hires, promotions, and terminations to ensure compliance with the Uniform Employment Selection Guidelines.
3. Any training programs are analyzed regularly to eliminate potential discrimination in participation rates.
4. Any tests administered are routinely analyzed to uncover potential discrimination in grading scores or test results.
5. Compensation practices are reviewed at least annually for wage discrepancies.
6. The Availability Analysis for women and minorities is reviewed and good faith placement goals are established when necessary.
7. Progress toward established goals is reviewed at least annually for possible adjustments to employment practices.
8. Internal reporting is prepared as needed to determine why goals were not met.
9. Results of the affirmative action program are reviewed with all levels of management.
10. Top management is informed on a regular basis of the effectiveness of these policies and any recommendations for improvement.

GOALS PROGRESS
41 CFR Section 60-2.16, 60-2.17(d)

Tetra Tech, Inc. monitors progress toward goals.

PRIVILEGED AND CONFIDENTIAL

RELIGION AND NATIONAL ORIGIN DISCRIMINATION GUIDELINES
41 CFR Section 60-50

Tetra Tech, Inc reaffirms its policy to afford equal employment opportunity to all individuals. Neither national origin nor religion is a factor in recruitment, selection, promotion, transfer, termination, or participation in training. The following activities are undertaken to ensure that religion and national origin are not used as a basis for employment decisions:

1. Employment practices are reviewed to ensure that members of particular religious and/or ethnic groups are given equal employment opportunities.
2. All employees, including supervisors, managers, and executives are informed of our commitment to provide equal employment opportunity without regard to religion or national origin.
3. Recruitment sources are informed of our commitment to provide equal employment opportunity without regard to religion or national origin.
4. Internal procedures exist to implement equal employment opportunity without regard to national origin or religion.

PRIVILEGED AND CONFIDENTIAL

ACCOMMODATION FOR RELIGIOUS OBSERVANCE AND PRACTICE

41 CFR Section 60-50.3

The religious observances and practices of employees are accommodated by Tetra Tech, Inc, except where such accommodation would cause undue hardship on the conduct of business. The accommodation offered is determined by considering business necessity, financial expense and any personnel coverage problems that may result.

PRIVILEGED AND CONFIDENTIAL

NONDISCRIMINATION

41 CFR Section 60-50.5

Tetra Tech, Inc does not discriminate against any qualified employee or applicant because of race, color, sex, sexual orientation, gender identity, age, disabled, or veteran status in implementing the policy concerning nondiscrimination based on religion or national origin

PRIVILEGED AND CONFIDENTIAL



424 Lewis Hargett Circle, Suite 110
Lexington, KY 40503
Main: (859) 619-8013
www.tetrattech.com



TETRA TECH

EXHIBIT D

Further Description of Basic Engineering Services

and

Related Services

LFUCG TASK ORDER NO. _____
UNDER LFUCG AGREEMENT WITH _____ FOR _____

CONSULTANT

OWNER

		Lexington Fayette Urban County Government
Street Address	_____	200 East Main Street
City, State, Zip	_____	Lexington, KY 40507
Contact Person	_____	Charles Martin
Telephone	_____	859-425-2400
Fax	_____	859-254-7787
E-Mail	_____	cmartin@lexingtonky.gov

Task Order Date: _____

Task Name: _____

Task ID: _____

SCOPE OF WORK/DELIVERABLES

See Attached

SCHEDULE OF WORK

See Attached

FEE

See Attached

ADDITIONAL PROVISIONS

Because this is a Commonwealth Environmental Project, **CONSULTANT** understands and agrees that the performance of these services is related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the "**CONSENT DECREE**"), a copy of which has been made available for review by the **CONSULTANT**, and which is incorporated herein by reference. The **CONSULTANT** further agrees that the services performed pursuant to this task order are necessary for the **OWNER** to meet the deadlines of the **CONSENT DECREE** and that the following requirements and conditions, which are in addition to those provided in the Engineering Services Agreement, shall apply to all work and services performed by the **CONSULTANT** under this task order:

1. Time is of the essence in the performance of the work and services. **CONSULTANT** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines.

2. If delays result solely by reason of acts of the **CONSULTANT**, the **CONSULTANT** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. Section 6.5 of this Engineering Services Agreement (**Disputes**), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The **CONSULTANT** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will attempt to resolve the delay.

3. In the event that **CONSULTANT'S** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **CONSULTANT** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney's fees.

ACCEPTED BY:

AUTHORIZED BY:

Consultant's Authorized Signature

Owner's Authorized Signature

Date Signed

Date Signed

*Two originals of this work order shall be executed by the Consultant and returned to the Owner _____.
A fully executed copy will be returned to the Consultant.*